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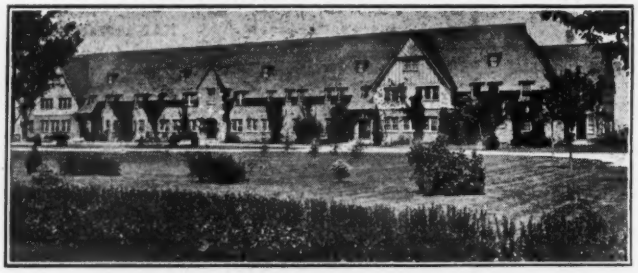

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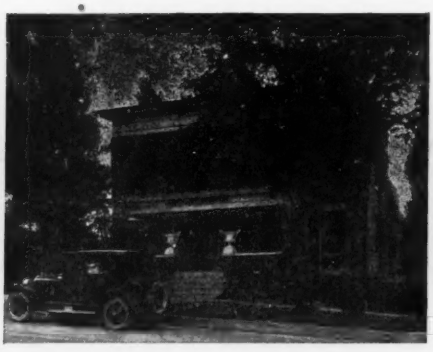

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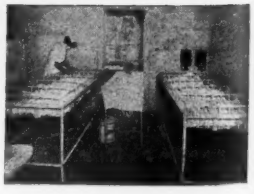

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The elder man, self-contained and obviously prosperous, had strongly advised his young confrere to disregard a tempting commercial offer and to preserve his professional status at any monetary sacrifice for the present moment at least. The younger man had weighed his reasons pro and con and had elected to pursue the straight and narrow path toward scientific skill, when he chanced to glance upward at the sign of the three gilded balls.

"A bad omen," he exclaimed, "to stop in the shadow of a pawnshop at such a moment! It suggests want with painful and prolonged separation from worthwhile fees."

"That sign a bad omen" laughed the senior practitioner. "Let me say this: not all the bankruptcy signs in the world can carry a single ill omen that is not self-suggested. Curiously enough, these three gilded balls are my own particular mascot.

"A year ago, standing upon this very spot, I was lugubrious enough. An optical goods price war was on, you will remember. Price was always in the foreground. Science was relegated to the rear. Skill or a conscience were positive handicaps in the race for business. Profits disappeared in successive price cuts . Personal animositiy grew. Bad practices ran riot| The lower the patient's fee, the more unstable the business became. The situation was serious.

"Those of us suffered most who were to some extent professionally prepared. Our competitors were given to many practices we would not resort to, yet our financial recovery the same as theirs depended upon three possible steps:

"To produce two patients for every one who sought us now. To provide a reserve or special service pair of glasses to every legitimate patient who bought one outfit now. To restore prices to a point sufficiently high to allow us to render service and save something out of the fees we handled to live on.

"I accomplished all this, and my three-ball symbol turned the trick.

"Three possibilities, I thought one day as I heavily passed this spot and gazed absently at the three balls; and the immediate necessity of standing apart with credit and distinction from three commonplace cut-throat competitors who happened to be throttling my business.

"Then flashed my symbol: three balls. Three sales objectives. Three competitors wholly unqualified to decide what is best in the long run for thir patron's eyes. Three products in my own hands they cannot duplicate and undersell. "I would tell the world and sell the world the merits and special uses of a precision lens, a better bifocal and of a safe non-habit-forming tinted lens. Henceforth I would refuse to talk price but would give Helter Skelter and Skeddle the task of duplicating my service. These three names seemed to suit my competitors, in my present mood.

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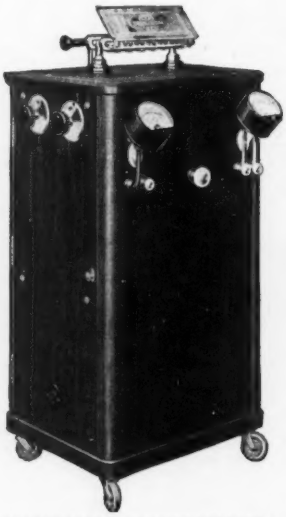

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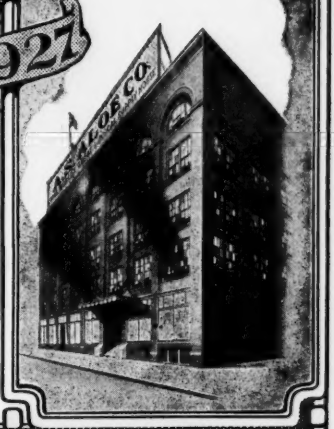

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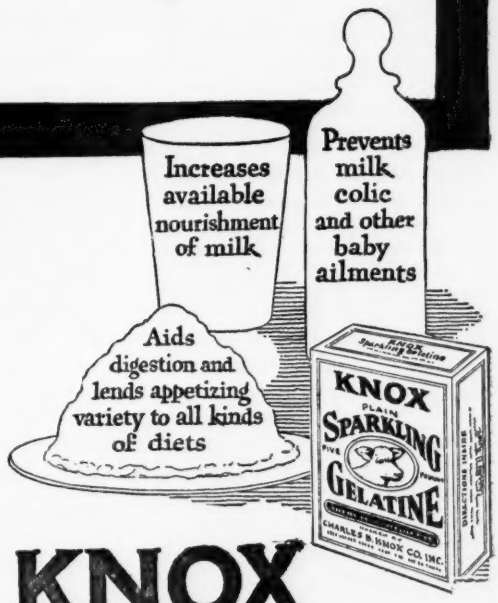
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THE JOURNAL
of the
Kansas Medical Society

VOL. XXVII. TOPEKA, KANSAS, SEPTEMBER, 1927 No. 9

The Care of Children in a General Practice

FRANK C. NEFF, M.D., Kansas City

Read at sixty-first annual meeting of the Kansas Medical Society, at Hutchinson, May 3, 4, 5, 1927.

If one glances at the roster of physicians in the directory of the American Medical Association, he will find that the larger cities have nearly all of the specialists in pediatrics. In the small cities there are a few who have indicated that they are especially interested in children's work. In some states, among them Kansas, the treatment of children is almost entirely in the hands of the general physician. At a meeting in Washington, D. C., a few years ago, a speaker estimated that over 50 per cent of the average physician's work is with children. In response to a questionnaire which I sent to 25 general practitioners in this state, the answers indicated that from 11 to 60 per cent (the general average—36 per cent) of practice is pediatric. This is not hard to realize if one includes the newly born, the care of older infants, the infections of the ear, nose and throat, the contagious and respiratory diseases among the pre-school and school ages. The medical schools have recognized this fact by creating a separate department of pediatrics in which the student is given special instruction and clinical experience in this field, as well as in orthopedics which deals largely with the young.

It seems to me in a state medical program that a discussion of these problems in children, which you are so often called upon to meet, might be of interest. In the limited time for this paper I can but mention the common ones. The care of children by the general practitioner consists in the proper feeding of the infants, the direction of the nutrition of children of all ages, the prevention or treatment of communicable diseases and other infections, the timely diagnosis of surgical conditions and the treatment of emergencies.

INFANT FEEDING

There is often a gap in the care of the newly born infant's life during the first weeks when the physician who is especially interested in the well being of the mother may not realize the necessity for watching the progress of his other patient, the baby. I believe that much of the difficulties encountered in handling the feeding of infants during the first year can be prevented by providing proper nourishment from the beginning of life. We take too much for granted if we leave this question entirely to chance, expecting that every mother can entirely and successfully nurse her infant. I could not fail to herein emphasize the importance of breast nursing, but we should go further and watch the infant's welfare from the first and determine whether additional food is needed. As a useful detail in this regard let me suggest that you arrange with some storekeeper in your community to establish a rental department for scales where the family that does not own an accurate pair can rent one for the first three months of the baby's life. By the practice of weighing before and after feeding, the amount obtained by the infant is easily determined, and the quantity though small, should be used, and added to if necessary by sufficient artificial food.

The total amount given at four-hour intervals must be sufficient for comfort, sleep and progressive gaining. Fortunately this is usually obtained from the breast and within ten minutes, never longer than twenty. When it is seen that the mother does not produce enough for the child, there can be no objection but much benefit from following the nursing with enough of a nutritious, easily digested milk formula to make up the needed amount. This will vary with the individual baby, but as a guide one can follow the quantities found by Scammon and Doyle to be the physiological capacity of the infant's stomach.

Amount Taken at One Time by the Average Newly Born Infant

Day	Ounces
1	0.3
2	0.7
3	1.4
4	2.1
5	2.6
6	2.8
7	3.0
8	3.1
9	3.3
10	3.5

Average Amount Taken at Four-Hour Intervals

Age, months	Grams	Ounces
1	110	3.6
2	130	4.3
3	150	5.0
4	170	5.6
5 to 12	180 to 270	6 to 9

The food value of an artificial formula can well be made similar to breast milk so that the nourishment taken by the infant is easily estimated. I believe that you will find it usually advisable to employ sour milk for the additional food given an infant either in the first ten days of life or for several months. There are many good ways to prepare it, and the following formula is only one that may be easily prepared and in proper amounts in the average child will be successfully used:

Boiled whole milk ------ 12 ounces
Soured with a buttermilk tablet or with U. S. P. lactic acid, 2 drops for each ounce.
Water (boiled) ---------- 4 ounces
Sugar or syrup ---------- 1 ounce

After determining how much breast milk the child gets at each feeding, enough of the formula can be given to insure comfort and a gain of approximately 7 ounces each week. If looseness of the bowels occurs, the artificial food should be omitted for a day, and thereafter used in smaller quantities. Diarrhea in the breast-fed infant may be combated by feeding a few teaspoonsful of skim milk curds suspended in two ounces of water, after each ten minute nursing.

One of the common causes for weaning the young infant is colic. Such a child is apt to be suffering from an increased nervous tone which can be relieved by adequate doses of atropine without stopping the nursing, though it may need to be shortened and some complemental feeding added as mentioned above. A useful and safe method of giving atropine is as follows:

℞ Atropine Sulphate (fresh) -- gr. ½
Water ---------- oz. 1.5

Give one drop before the first feeding and increase a drop each feeding until the child becomes comfortable, and then continue the dose at that level, whether it is two or twelve drops.

Another practice of changing the infant's food is found when a gastro-intestinal disturbance with vomiting and diarrhea suddenly occurs in an infant who may have been doing well. This may be due to hot weather, too many clothes or too close housing. It often happens that an infection has developed as the cause of the digestive disturbance. This may be an acute rhinitis, sinusitis, otitis media or bronchitis, which should be treated, and a temporary reduction made in the amount of food. In breast babies such an infection does not seriously upset the digestion.

THE NUTRITION OF CHILDREN OF ALL AGES

There is no reason why the physician should not make it a part of his practice to weigh and measure the children of his clientele at least once a year, examine their urine and suggest methods for correcting improper habits of eating, bedwetting, constipation and sleeping. In this way undernutrition may be prevented or corrected, disease such as diabetes, pyelitis and vulvovaginitis detected.

COMMUNICABLE DISEASES

I would urge the physician to educate his patients to have the infant vaccinated against smallpox at three months of age, to administer toxin-anti-toxin to all infants at nine months of age. All cases of membrane in the nose or pharynx and of diphtheritic croup should early be given diphtheria anti-toxin, as this will prevent disasters. The family should be instructed as to the harmlessness of measles under nine months, a time of life where it is well for the child to have the disease and the great danger from measles after that age. Even the youngest infant is susceptible to pertussis and the younger the child the more serious the course, so that the family should always guard against exposure. The great difficulty in prevention of contagion is in the school child, who usually is the source of spread to the younger members of the family. Although vaccine is as yet not universally accepted as a prophylactic for whooping cough, recent Italian reports are much more encouraging. It should be best given before the exposure has taken place. In the treatment of severe pertussis vaccine should be used though one cannot promise much in the individual case.

There has been wide interest in the question of scarlet fever immunization. The success of toxin-anti-toxin for diphtheria has created a demand on the part of the profession and the laity for specific prevention and treatment. The methods of active immunization are still in the stages of refinement and, to some extent, their results are still in doubt. The Dick test is difficult of interpretation, and what it means for definite conclusions as to constant and per-

manent immunity cannot as yet be stated, as sufficient time and experience have not elapsed for proof. When scarlet fever is present in the community, I believe that although the merits are not entirely proven, one or two injections of the Larson recinoleated scarlet fever solution should be given to those children who are apt to be exposed. It will not stop the disease which is alrealy in the incubation period. An objection to the use of the scarlet fever antitoxin serum is that it does not always prevent the disease in the child who has been exposed. Another objection is that serum is unnecessary in children who are naturally immune, especially in infants under twelve months, or in the child who is susceptible but, as is often found, does not develop the disease from some one individual exposure. A high percentage of annoying serum sickness results from the use of this horse serum, and I have come to forego its injection except in the case of actual severe scarlet fever.

Children above nine years of age and any child who may be exposed to contaminated food or water should be given as a routine typhoid vaccine every three years.

As a preventive for dysenteric disease in young children who are not being breast fed, dried milk should be used during the summer and fall months, and all fresh milk and water should be boiled at any time of year. Individuals who have recently had the disease should be suspicioned of being carriers.

The danger from tuberculosis is a real one. Infants are highly susceptible to meningitis, older children to glandular and abdominal tuberculosis. Contact with open cases and infected milk are to be avoided in every way that you can direct.

THE TREATMENT OF OTHER INFECTIONS

The prevention of exposures to epidemic colds is the most useful sort of treatment. In addition to this, the physician should caution against the overheated and superdried air of the living rooms, the failure to provide outdoor air and ventilation. It is probable that the best treatment for any acute upper respiratory infection is to put the child in bed for a few days in a well ventilated room.

Persistent fever in children is often due to rhinitis, sinusitis, otitis media, mastoiditis and lymphadenitis either of the cervical or peribronchial glands. These call for such local treatment as is effective, for drainage of actual pus, and for improvement in the hygiene and environment of the child.

In the newly born infant and in older girls obscure fever may be due to infection of the urinary tract. Examination of the urine in every case, and the administration of plenty of water and alkalies throughout the twenty-four hours are to be urged.

Erysipelas in the infant is benefited by repeated blood transfusions.

Serious febrile conditions accompanied by vomiting and loss of body fluids can be greatly benefited by the daily subcutaneous injection of normal salt solution.

Physicians should have an open mind about the possibility of intestinal parasites and the occasional harmfulness of infection in the child.

SURGICAL INTERVENTION

Tongue-tie should be let alone, because of the untoward hemorrhage which may follow an operation and prove fatal.

Harelip should be at once repaired. Cleft-palate may be left until the child is in the best condition, often not until one year or more of age. The physician should see that the child is nourished by any adequate means. These children lose much of their feedings, are deprived of breast milk, and nearly all become anemic and underfed. Feeding with a spoon or tube is advisable, and the formula should be concentrated.

The tonsil and adenoid problem is a large one and should be carefully considered. Interference with breathing, repeated attacks of acute inflammation, recurrent colds and hyperplasia of the cervical glands call for removal of the tonsils and adenoids.

Acute vomiting should receive prompt consideration. In the infant usually under eight weeks of age, it may be due to pyloric stenosis, the best treatment for which is careful surgery. Acute vomiting and bloody stools in any infant suggest intussusception and operation should not be delayed for twenty--four hours. Appendicitis is rare under two years of age, but becomes increasingly frequent each year thereafter. The child should be at once taken to a hospital and operation be promptly done after an early diagnosis.

SUMMARY

To the general practitioner will be brought the majority of the children in any community. Since these furnish such a high percentage of general practice, the doctor should give especial attention to the health and to the prevention and cure of disease among these young patients.

The Use of Iodized Oil in the Visualization of the Bronchial Tree

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Read at sixty-first annual meeting of the Kansas Medical Society, at Hutchinson, May 3, 4, 5, 1927.

Included in the experience of all of us, who study the intestinal tract by x-ray, are the incidents when the opaque media has been observed to enter the tracheobronchial tract, by reason of a fistulous opening, paralysis of the deglutitory apparatus, or other cause. We have been impressed by the lack of pulmonary reaction in such cases. The suggestion then of the intentional introduction of some contrast media into the respiratory tract, for the purpose of rendering it radiographically visible, has been more or less tolerantly received.

Jackson[1] of Philadelphia in 1922 introduced finely powdered bismuth subcarbonate through a bronchoscope. The bronchograph obtained by routine x-ray film of the chest after such insufflation clearly delineated the trachea and bronchi in the region studied, and was, therefore, the source of considerable information, as to the bronchial caliber, cavities, etc. The method, however, failed to become popular with the exception of comparatively small numbers of workers, for the reason that only the larger bronchi or localized areas as a rule were shown, and especially because of the high degree of skill necessary in following the technique for the introduction of the powder.

Sicard and Forestier[2] in March, 1922, suggested in their article "General Method of Roentgenologic Exploration with Iodized Oil," the use of a forty per cent iodized oil called Lipiodol, in the study of the bronchial cavities. Their original researches with the oil were in the epidural and subarachnoid spaces. A later communication of April, 1926, includes the statement that the examination of the pulmonary system, by means of intratracheal or intrabronchial injections of Lipiodol, is without doubt the application which has yielded the most important results.

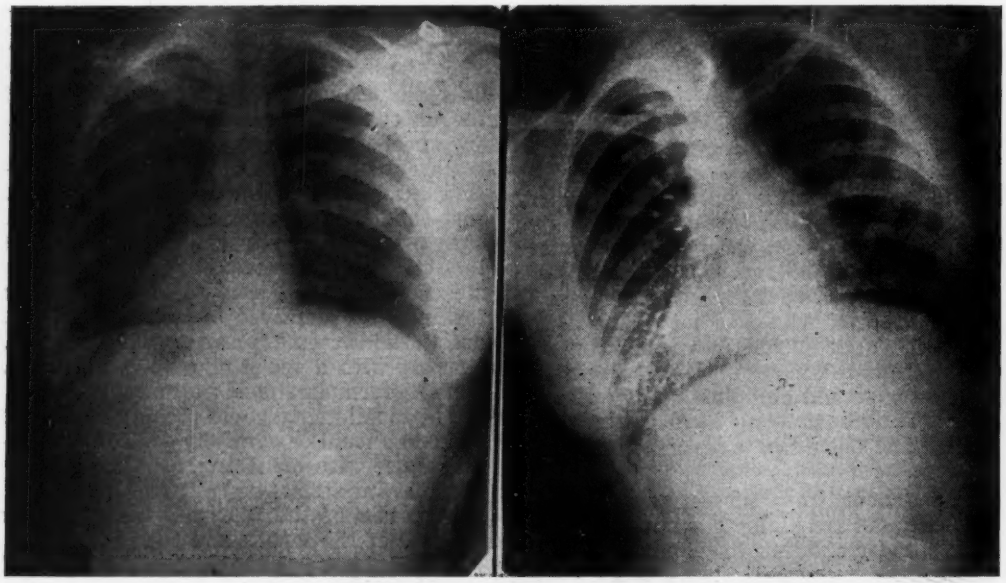


Fig. I. Normal distribution Iodized oil forty per cent in essenitally normal chests.

The word Lipiodol is a trade name. The oil is formed by the chemical combination of the oil of poppy with forty percent pure iodine. The chemical combination is quite firm, to the end that the iodine reaction is not obtained by the usual methods. For this reason, the antiseptic value of the oil is negligible. The iodine content, of course, is the explanation for the radiographic shadows produced. The oil was originally introduced in France twenty-five years ago by L. Lafay by intramuscular or a subcutaneous injection. In cases where a moderate but prolonged iodine treatment was indicated, radiographs made of the part

which had received the injection showed dense shadows, and the fact that the material was ideally tolerated by the tissues remaining unabsorbed for a long period of time suggested to Sicard and Forestier its use in general cavity examination. An American product called Iodipin also consisting of a forty per cent iodine in a vegetable oil is on the market. It is approximately the same price as the French product, and limited reports would indicate that it is the equal of Lipiodol.

The manner of introduction of the oil into the respiratory tract has been the subject of rather voluminous discussion in the recent literature. Dr. Singer and Goldman[4] of St. Louis, Missouri, to whom I am personally indebted for my interest in this method of examination have classified the methods of introducing the oil under six heads.

1. Through a trocar needle resembling a tracheotomy tube into the trachea under sterile precautions. The method of Armand-Delille.[5]

2. Under direct laryngoscopic examination, with the patient lying on the back and with the head extended over the table.

3. Through the bronchoscope introduced diretly into the lung.

4. Through a tracheal catheter introduced under direct illumination of the larynx.

5. Injection into the pharynx without local anesthetic, while the patient pulls out his tongue as far as possible.

6. Introduction of the oil through an intubation tube as suggested by Iglauer.[6]

The fifth method is originated by Dr. Singer and is the method, with more or less trivial changes, which I choose to employ. It is applicable to all except young children, who will require the first method. Occasionally, an adult requires the fourth method, but where co-operation is possible and can be obtained, no anesthesia is required.

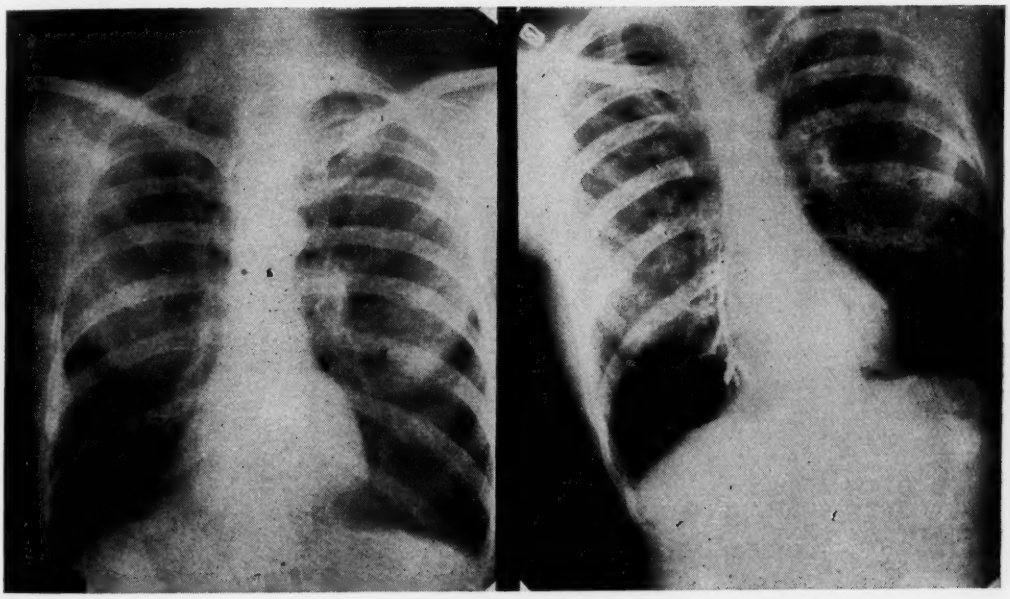


Fig. II. Usual Radiograph and same after injection with Lipiodol. Classical clubbed type bronchiectasis. Bilateral. See also Fig III.

Of the other methods, each will be found useful in specified cases. Where a bronchoscopic examination is required for some other reason, the oil may be directly instilled. Obviously the method chosen will depend on the man who is to do the work.

As to the interpretation of the radiograph made after the injection of iodized oil, several factors are to be taken into account as altering or modifying the shadows cast. A large amount of oil is expelled by coughing in a short time after the injection. The radiograph must, therefore, be made immediately. In case it is not, the fact must be borne in mind.

A portion of the oil will usually remain for days and even months, and a re-examin-

ation with the oil must take this fact into account. The oil from the previous examination will be found deep in the lung parenchyma, coating the alveoli.

The position of the patient determines the site to which the oil will gravitate. If the patient has assumed an upright position, leaning forward or backward, the anterior or posterior group of bronchi will receive a larger or smaller portion of oil as the case may be. Lateral projections will reveal this fact.

It is possible to change the position of the oil after injection by positioning the patient. A modified or speciialized Trendelenburg position after injection in an upright position permits the oil to flow from the lower to the upper lobes.

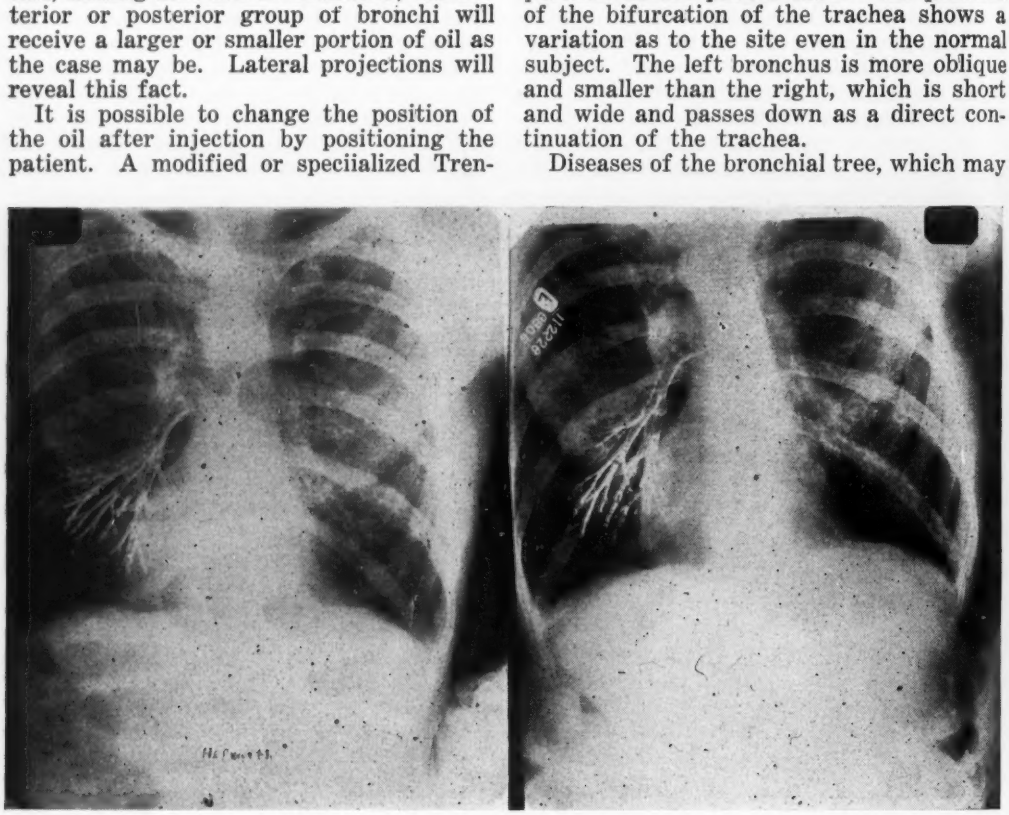


Fig. III. Injection left bronchii. Same case as Fig. II. The injections were made thirty days apart by fourth method. Note identical shadows.

The bronchial tree in addition to its classical function acts as a support to the parenchyma structures. The smaller bronchi in contrast to the larger contain no cartilage, and, therefore, are supported by the larger.

Ballon and Ballon[7] have shown that the position of the larger bronchi are fairly constant in man, and quote Ewart as having proved by calculation that the lungs of infants contain the same elements as those of the adult, their size only being different; consequently, the normal bronchial tree as visualized by the pneumograph at various age periods is constant.

The size of the products of a bifurcation of a bronchus is equal to that of the parent. It is almost an invariable rule to quote the same author; that of two diverging bronchi, the smaller one diverges most from the position of the parent tube. The position of the bifurcation of the trachea shows a variation as to the site even in the normal subject. The left bronchus is more oblique and smaller than the right, which is short and wide and passes down as a direct continuation of the trachea.

Diseases of the bronchial tree, which may be demonstrated by the injection of iodized oil, obviously are those which affect the lumen; by obstruction, stenosis or dilatation, position, course, and relationship. In addition bronchography finds especial application in the study of the post cardiac region, chronic empyema, broncho-pulmonary fistula, lung abscess and following thorocoplasty, etc.

Bronchiectasis, the pathological dilatation of the bronchi, may be localized or diffuse, unilateral, or bilateral. In type, sacular, cylindrical and fusiform forms are recognized. It is generally agreed that the disease has gone unrecognized until the clinical signs of excess sputum, persistent

rales and typical cough denoted an advanced pathology. By radiographic study with iodized oil, the diagnosis is much more exact, the site and extent evaluated and will certainly contribute to earlier diagnoses.

Ballon and Ballon have classified bronchiectasis into five types based on the injection of iodized oil: 1, Cylindric; 2, Grape; 3, Bead; 4, Clubbing; 5, Sacular. These types denote the stage of the disease as well as description of the condition of the air tube and distal lung parenchyma. It is obvious that any such classification may be used only as a gross guide, that the types will overlap.

Iodized oil has done much and may reasonably be expected to do more in the study of non-tuberculous pulmonary disease. One sees in the literature the repeated suggestion of the abandonment of the term chronic bronchitis as a primary diagnosis.

As to the contra-indications for the use of iodized oil, all have agreed that the method should not take precedence over other established and valuable procedures of investigation. Archibald[8] concludes that iodized oil should be used with caution in tuberculous cases, and that the bronchoscopic method is especially unfitted. Some danger of infectious tarnsfer is at least theoretically possible by any method chosen. Acute infections such as early cold or influenza, advanced circulatory complications, recent hemoptysis or enfeebled conditions from any cause, wherein the manipulation incident to the procedure would be contra-indicated, deny the use of the method. Some loss in vital capacity will occur by displacement of the oil.

In defense of the method, because of the newness, Pirie[9] reports twenty-seven cases with one reaction; that an advanced bilateral tuberculosis, whom he says was inadvisedly subjected to injection. The patient died of acute cardiac dilatation during the procedure. Ballon reports one hundred cases with no bad results. Stewart of Ninette, Manitoba, thirty cases without unfavorable reaction. Dr. Singer says no deaths or serious reactions have been reported in France, England and Germany during three years of its use; and, personally, has seen no serious result in his own series. Lawson reports no reaction in his series of cases, wherein he carried out a study of empyema cavities.

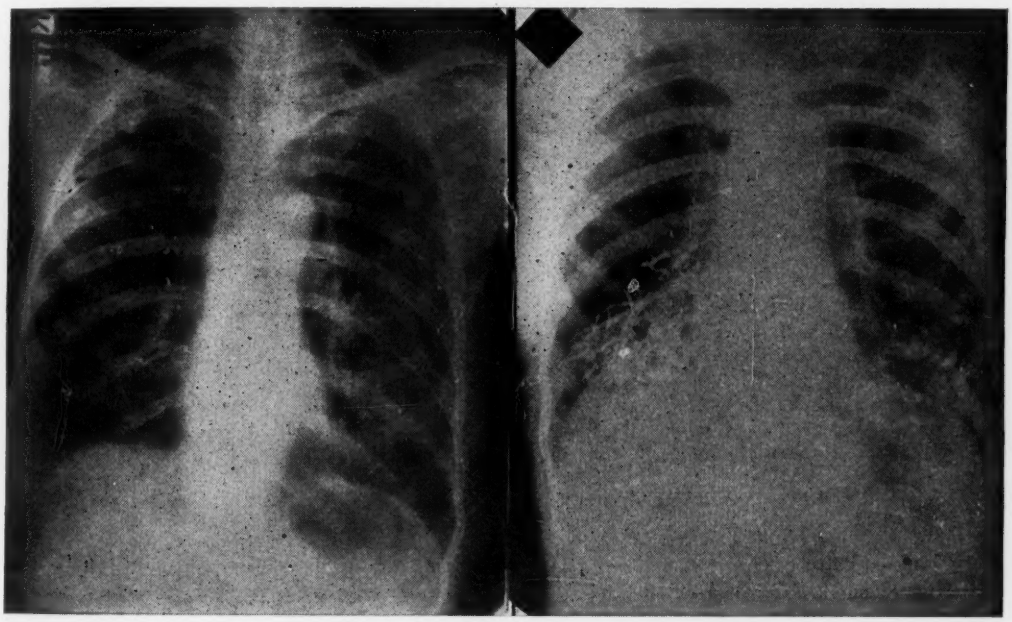


Fig. IV. Old pulmonary tuberculosis. Diffuse mixed types bronchiectasis. Injection left chest. Injection left chest three weeks previously. Note residue.

Pritchard, Whyte and Gordon, in an article appearing in the January issue of Radiology, reported one thousand cases, six of whom developed mild iodism in the form of an irritable rash. For this reason, they

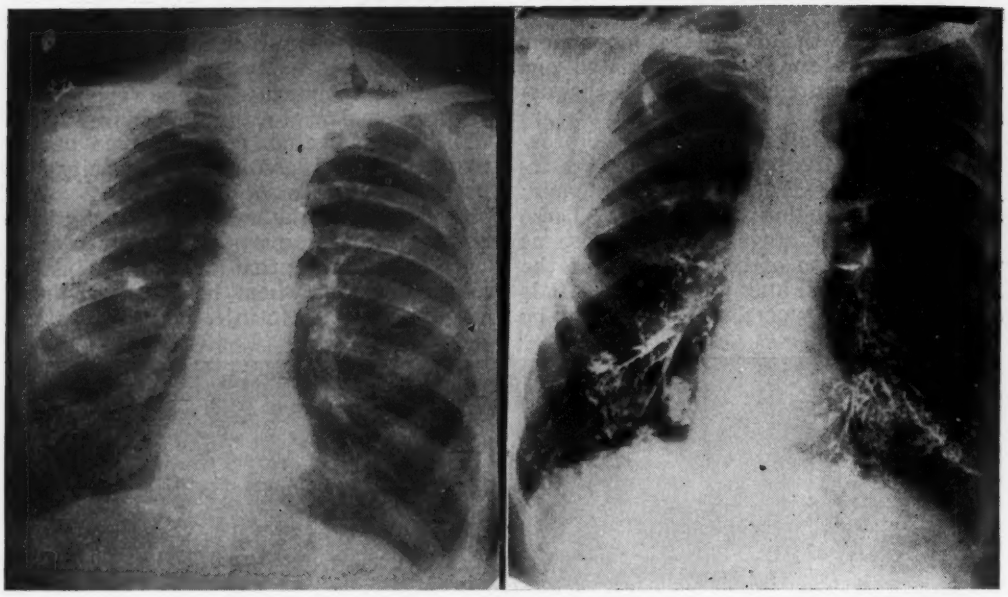


Fig. V. Injection both lower bronchii with twenty c.c. Lipiodol. Shows grape bronchiectasis right lower, cylindric type proximal

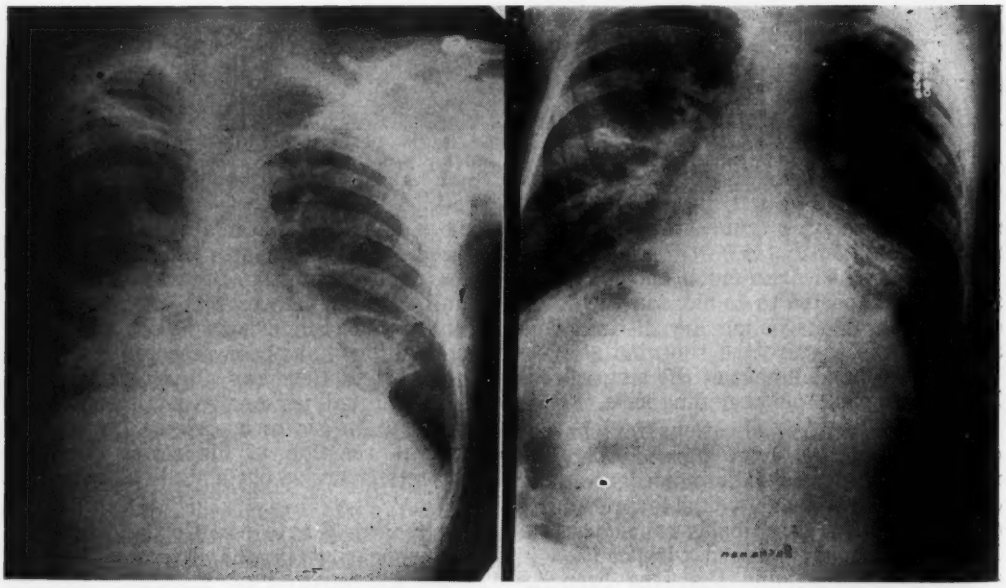


Fig. VI. Pericarditis Sicca and Marked Cariopulmonary Fibrosis. Note proximity of primary bronchii and their normal calibre. Post mortem confirmation.

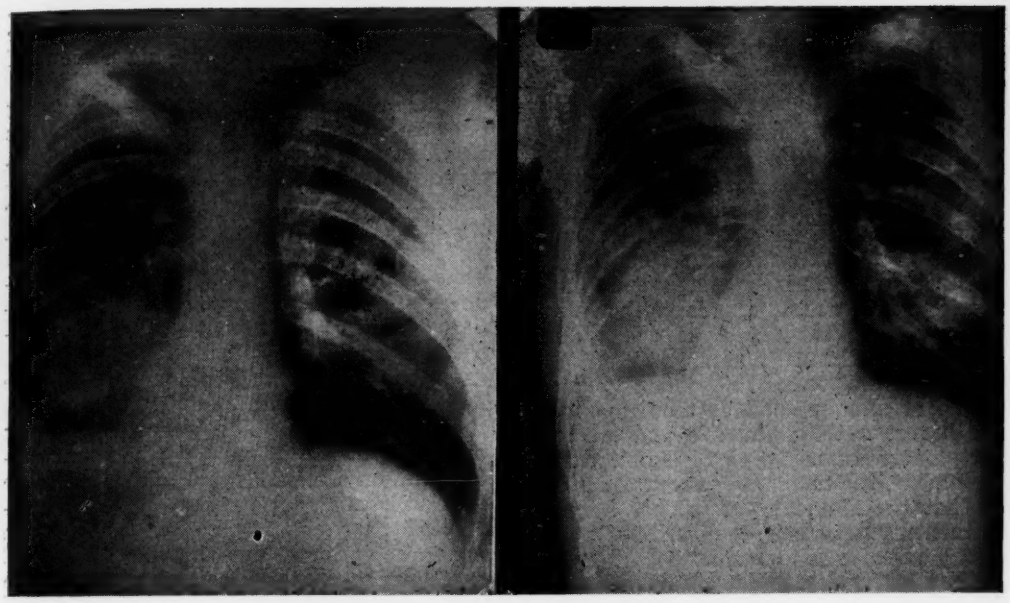
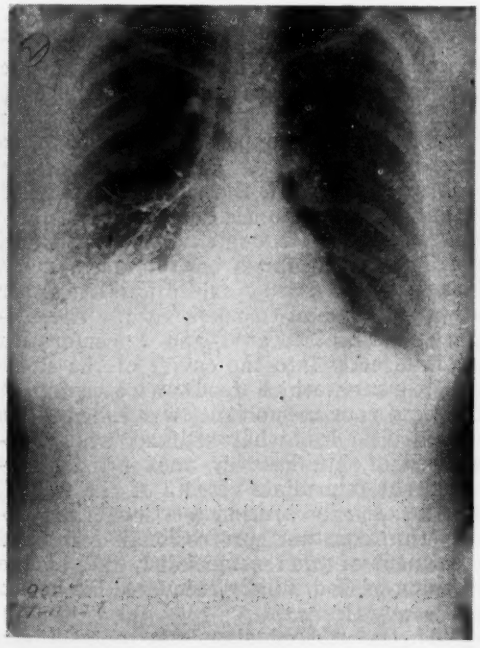


Fig VII. Lung abscess without fistula.

administer castor oil in those cases where a considerable amount of the oil is swallowed, for the purpose of expelling the oil before the possibility of a split in the compound by reason of contact with the alkaline intestinal juices.

In my own experience (twenty-two cases, twenty-eight injections) no unfavorable reaction was seen. On the contrary, several patients with actual bronchiectatic changes requested reinjection as a therapeutic measure, reporting diminution in cough, loss of the tenacious character of the sputum, and partial to complete relief of chest discomfort or pain.



An article by Archibald and Brown, J. A. M. A., April 23, 1927, includes a complete bibliography of the literature to date and they conclude that definite potential dangers accompany the intratracheal injection of iodized oil which denies its indiscriminate use.

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William Beaumont, the Father of American Physiology

RALPH H. MAJOR, M.D., Kansas City, Mo.

William Hunter, the talented and brilliant physician of the eighteenth century, brother of the immortal John, when lecturing to some students one day made the following pithy and oft quoted remark: "Some physiologists will have it that the stomach is a mill, others, that it is a fermenting vat, others again that it is a stew-pan; but in my view of the matter, it is neither a mill, a fermenting vat nor a stewpan; but a stomach, gentlemen, a stomach."

It is the purpose of this sketch to discuss in the briefest possible fashion, to give in the barest outline, the life and labors of the pioneer American physiologist, William Beaumont, the man who proved conclusively that the stomach "is neither a mill, a fermenting vat nor a stew-pan! but a stomach, gentlemen, a stomach."

On a lovely day in 1822, on the island of Michili, Macinac, in the far off northern wilds, where the waters of Lake Michigan and Lake Huron unite, an interesting and animated scene was taking place. The annual return tide to the trading post was in full swing, and a noisy and excited crowd of Indians, French Canadian voyageurs and soldiers were gathered about the palisades and block houses of the old fort. The beach was thronged with canoes and bateaux laden with the pelts of the winter's catch, and groups of interested onlookers were discussing the profits that old John Jacob Astor would make on furs, while others perhaps of political bent were wondering whether James Monroe would run for a third term as President, or whether an old fire-eater from Tennessee named Andrew Jackson would be a candidate.

Suddenly from the company's store there was a loud report of a shot-gun, there was instantly tremendous excitement, the scurrying of many feet, wild rumors of a shooting scrape and messengers went hurrying to the fort in search of a doctor. In a few minutes an alert, straight young man in the uniform of an U. S. Army surgeon made his way through the excited crowd and was at the side of a young French-Canadian voyageur who had been wounded by the accidental discharge of a gun. Surgeon Beaumont, although a young man, had seen much service and at the capture of York and at the investment of Plattsburgh, had shown a coolness and bravery under fire that had won recognition from his superior officers.

Mr. Hubbard, one of the officers of the fur company, gave the following account of the accident:

"On the morning of June 6, a young French-Canadian, Alexis St. Martin, was standing in front of the company's store, where one of the party was holding a shotgun, which was accidently discharged, the whole charge entering St. Martin's body. The muzzle was not over three feet from him—I think not more than two. The wadding entered, as well as pieces of his clothing; his shirt took fire; he fell as we supposed, dead.

"Doctor Beaumont, the surgeon of the fort, was immediately sent for and reached the wounded man in a very short time; probably three minutes. We had just gotten him on a cot and were taking off some of his clothing. After the doctor had extracted part of the shot, together with pieces of clothing, and dressed his wound carefully, he left him, remarking: 'The man cannot live thirty-six hours; I will come and see him by and by.' In two or three hours he visited him again, expressing surprise at finding him doing better than he had anticipated. The next day, after getting out more shot and clothing and cutting off the ragged edges of the wound, he informed Mr. Stuart in my presence that he thought he would recover."

This prediction, as we know, proved true. Alexis St. Martin, a lad of 19 at the time of this accident, died at the ripe old age of 83.

Beaumont's own description of the wound was given in his "Memorial" to the Senate and House of Representatives.

"The wound was received just under the left breast, and supposed, at the time, to have been mortal. A large portion of the side was blown off, the ribs fractured and openings made into the cavities of the chest and abdomen, through which protruded portions of the lungs and stomach, much lacerated and burnt, exhibiting altogether an appalling and hopeless case. The diaphragm was lacerated and a perforation made directly into the cavity of the stomach, through which food was escaping at the time your memorialist was called to his relief. His life what at first wholly despaired of, but he very unexpectedly survived the immediate effects of the wound, and necessarily continued a long time under the constant professional care and treatment of your memorialist, and, by the blessing of God, finally recovered his health and strength.

"At the end of about ten months the

wound was partially healed, but he was still an object altogether miserable and helpless. In this situation he was declared 'a common pauper' by the civil authorities of the county, and it was resolved by them that they were not able, nor required, to provide for or support, and finally declined taking care of him, and in pursuance of what they probably believed to be their public duty, authorized by the laws of the territory, were about to transport him, in this condition, to the place of his nativity in lower Canada, a distance of more than fifteen hundred miles.

"Believing the life of St. Martin must inevitably be sacrificed if such attempt to remove him should be carried into execution at that time, your memorialist, after earnest, repeated, but unavailing remonstrances against such a course of proceedings, resolved, as the only way to rescue St. Martin from impending misery and death, to arrest the process of transportation and prevent the consequent suffering, by taking him into his own private family, where all the care and attention were bestowed that his condition required.

"St. Martin was, at that time, as before intimated, altogether helpless and suffering under the debilitating effects of his wounds—naked and destitute of everything. In this situation, your memorialist received, kept, nursed, medically and surgically treated and sustained him, at much inconvenience and expense, for nearly two years, dressing his wounds doily, and for considerable part of the time, twice a day, nursed him, fed him, clothed him, lodged him and furnished him with such necessities and comforts as his condition and suffering required.

"At the end of these two years he had become able to walk and help himself a little, though unable to provide for his own necessities. In this situation your memorialist retained St. Martin in his family for the special purpose of making physiological experiments."

The accident which happened to Alexis St. Martin gave Beaumont his opportunity. It was of course an accident and if the shotgun had not been discharged on that June day at Michili Macinac, Beaumont would perhaps have never been known to posterity. But it has been pointed out that mere chance or accident when it comes to a man with an alert, well--trained mind, gifted with imagination, may become a great opportunity. The discovery of the x-ray was in a sense quite accidental, but the well-trained mind of Roentgen immediately grasped its importance and possibilities for study and development. Many of Pasteur's great discoveries were accidental in a sense, but back of them all were years of work and hard study, preparing a mind to grasp the importance and see the implications of chance observations.

It may be of interest to trace the early life of Beaumont to see what qualities of mind or early training, prepared him to grasp this opportunity that made him the first great American physiologist.

William Beaumont was born Nov.21,1785, a few years after the close of the Revolutionary War, in Lebanon, Conn. Very little record is preserved of his early life, except the fact that his father was a staunch Democrat of the old Jeffersonian school and that the son early showed great interest in National affairs.

In 1806 young William Beaumont, then 21 years of age, becoming restless and desiring to see more of the world, decided to leave his father's roof and go forth to seek his fortune. Setting out with a horse and cutter, a barrel of cider and one hundred dollare in cash, he started northward, in mid-winter, without any particular destination and finally arrived the following spring at the little village of Champlain, New York, near the Canadian border. This small town beautifully situated, had winters very long and severe which according to a contemporary "had a very salutary effect on the morals and industry of the place, the rigors leaving little time for the lassitude of idleness or dissipation, a circumstance friendly to moral virtues and to vigor of the body and mind."

Beaumont was favorably impressed with the place and located here. He had been educated in the public schools of Connecticut which were then considered the fountain-heads of common school learning, so that when he applied for a position of village schoolmaster, he received the appointment. He taught school for three years and during this time decided to study medicine and spent his leisure moments reading such medical works as he could secure.

In 1810 he crossed Lake Champlain to St. Albans, Vermont, where he applied to Dr. Benjamin Chandler and was taken into Chandler's home as an apprentice and student of medicine. Dr. Chandler left an indelible impress upon young Beaumont's mind and instilled into his young pupil the importance of developing his memory, his powers of observation and the habit of log-

ical thought. He remained with his preceptor for two years preparing powders, making pills, sweeping the office and assisting at operations. He rode about with Dr. Chandler from house to house, jotting down in his note-book the words of wisdom that fell from his master's lipe.

This note-book has been preserved and gives us an insight into the inner workings of Beaumont's mind. Two outstanding features are the excellent and minute case records of all patients he saw and his great interests in autopsies, which he was always eager to secure and which were always performed with exceeding care and scrupulous attention to every detail. This note-book demonstrates conclusively that the power of keen observation and the true scientific spirit were obvious at an early age of his career.

With the completion of his apprenticeship the medical society of Vermont granted him a license to practice, this document bearing the date of "the 2nd Tuesday of June, A.D. 1812." In this same month war was declared against England and in September 1812, Beaumont joined the American Army as surgeon's mate.

Beamuont's career in the army during the war of 1812 is graphically described in his diary, which has been preserved. He saw a most active and strenous service but found time to write down many interesting medical observations and to try out original forms of treatment. He saw much diarrhoea and fever, probably typhoid, and some of his observations on what was probably the latter, are of great interest. On Dec. 12, 1812, he writes in his diary: "Ascertained the treatment of the Surgeon of the 11th Regt. in this camp, in diseases now prevailing, which is to give from one to three Emetics and as many cathartics, in order, he says, to cleanse the prima viae and obviate the symptoms of a bilious diarrhoea, and then give tonics. Behold the gasping, gasping Mortals, how they die! From two to five in a day! Twenty-six in the course of two weeks out of four hundred. Can it be correct practice, when in the next Regt., out of six hundred, in an exactly similar situation and laboring under the same diseases, not one has died in the same time under a diametrically opposite practice? No!"

In 1815 Beaumont resigned from the army and practiced for a time at Plattsburgh, but in 1820 he was again commissioned in the army and was immediately ordered to Fort Macinac. Two years later as already described, chance threw Alexis St. Martin across his path.

In 1825 Beamont made the following notes about St. Martin. "When he lies on the opposite side, I can look directly into the cavity of the stomach and almost see the process of digestion. I can pour in water with a funnel, or put in food with a spoon, and draw them out again with a syphon. I have frequently suspended flesh and other substances into the perforations to ascertain the length of time required to digest each.

"This case affords an excellent opportunity for experimenting upon the gastric fluids and process of digestion. It would give no pain, nor cause the least uneasiness to extract a gill of fluid every two or three days, for it frequently flows out spontaneously in considerable quantities. Various kinds of digestible substances might be introduced into the stomach, and then easily examined during the whole process of digestion."

Beaumont carried these ideas into execution and in May, 1825, began his experiments. In June he was ordered to Fort Niagara, taking St. Martin with him and continuing his experiments. A few months later he took him to Burlington and Plattsburgh. From the latter place St. Martin took an unceremonious departure and returned to Canada, where he married and had two children. Four years later Beaumont again saw St. Martin and continued his observations for two years, at the end of which Alexis again returned to Canada. Three years later, in 1832, St. Martin again engaged himself to submit to a series of experiments and in 1833 was enrolled in the United States army as Sergeant Alexis St. Martin. Beaumont's last recorded experiment was in Nov. 1833.

The experiments which Beaumont performed were published from time to time and excited world-wide interest and comment. Among the leading scientists of the time Prof. Dunglison of the University of Virginia, Benjamin Silliman of Yale, Berzelius of Sweden and Claude Bernard may be mentioned among those interested in his work and with whom he corresponded. Nor was interest in his work confined to scientific men. Many prominent public men such as Senator Thomas H. Benton, Lewis Cass, Edward Everett and Robert E. Lee were interested in his labors as their letters to him show.

The most important results of Beaumont's observations have been summed up as follows by Osler.

First: his clear description of the appearaance and properties of the gastric juice.

Secondly: the proof that the important acid in the gastric juice is hydrochloric acid.

Thirdly: the recognition that gastric juice and mucus are separate secretions.

Fourthly: the profound influence of mental disturbances on the secretion of the gastric juice. This observation antedates by many years that later researches of Pawlow, so well known to all students of medicine.

Fifthly: a more accurate and comprehensive comparison of digestion in the stomach with that outside the body.

Sixthly: the proof that water leaves the stomach rapidly.

Seventhly: the first study of the motions of the stomach.

And lastly: a study of the digestibility of different articles of diet in the stomach which still remains one of the greatest contributions to the subject of dietetics.

With the departure of "that old fistulous Alexis" as Beaumont called him, the physiological experiments came to an abrupt end. For several years Beaumont made unsuccessful attempts to induce Alexis to again submit to more experiments, and finally lost hope.

During most of the time the experiments were carried out, Beaumont took care of St. Martin, fed him and clothed him and part of the time paid him a salary, although his own salary as assistant surgeon was only forty dollars a month and he had a family to support. In 1834 a memorial was presented to Congress asking that Beaumont be reimbursed for his expenditures. It was defeated, however, by a vote of 129 to 56, because probably, as stated at the time, there was a "theoretical objection to the appropriation by Congress of money for any scientific or philanthropic purposes whatever."

In 1835 he was assigned to a permanent army post at St. Louis and soon had a very large and lucrative practice. Five years later after having a disagreement with the Surgeon General, Beaumont expressed himself regarding (to quote his own words) "the absurd opinion, contracted views, narrow-minded, vindictive spirit and petty tyrannical disposition" of the "weak, waspish and willful head of the Medical Department," and as a result, Beaumont's military career came to an abrupt termination.

His practice continued to grow after he left the Army and in 1841 he wrote his cousin he declined "more practice daily than half the doctors in the city get in a week." He still retained his interest in St. Martin and in 1852 almost succeeded in getting him to come to St. Louis.

Beaumont's later years, as he described them, were in "peaceful quiet ease and competence, satisfied with ourselves, our children and friends, caring little for the formalities, follies and fashions of the present age, the bustling turmoils, vain shows, pride and pageantry of modern Society."

Beaumont died on April 25, 1853, from an infected carbuncle. He is buried in the Bellefontaine Cemetery in St. Louis. Few pilgrimages are made to his grave, and his last resting place is unknown to most of the world, which he served so well by his life and labors.

Beaumont was a very unique and unusual person. Before St. Martin's accident at least twelve examples of this condition were reported in medical literature, but none of thm carefully studied. Beaumont turned an accident into an opportunity.

Preparation, Testing, Storage and Use of Biological Products

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Abstract of Address delivered before the Kansas School for Health Officers and Nurses, April 11th, 1927.

Biological products are those preparations prepared from living organisms, and used for the prevention and treatment of diseases. These preparations may be either living organisms, dead organisms, body fluids, toxin products resulting from the growth of bacteria or a combination of the latter two.

These different forms may be illustrated by mentioning smallpox vaccine which is a living organism, typhoid vaccine prepared from killed typhoid bacilli; diphtheria anti-toxin from the blood serum of immunized animals; scarlet fever toxin resulting from the growth of scarlet fever streptococci, and diphtheria toxin-anti-toxin made from a mixture of diphtheria toxin and anti-toxin.

The first biologic product used in human medicine was vaccine virus discovered by Jenner more than 125 years ago. It is not possible to even approximate the number of lives saved in the 125 years of its use by the protection it has given against small-

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pox. In considering the value of vaccination, it must ever be kept in mind that revaccination is just as important as the first vaccination, as the immunity given by vaccination gradually disappears in some individuals after 7 to 10 years. A child vaccinated in infancy should again be vaccinated when 7 to 10 years old.

Vaccine virus is prepared by vaccinating healthy calves, and collecting the "pulp" as it is called, grinding this with glycerine to a fine suspension or emulsion. It is tested to insure its freedom from harmful bacteria and their toxins and stored at low temperatures (about 15°F) until ready for shipment.

Diphtheria Anti-toxin was the first biologic product used for the treatment of disease, and its method of preparation is entirely different from that used for vaccine virus.

Diphtheria Anti-toxin is made from the blood serum of horses which have been immunized by repeated injections of diphtheria toxin. The horse is bled, the serum separated from the blood cells, and concentrated to reduce its volume and increase its potency per c.c. It is then made sterile by filtration through a Berkefeld Filter and tested on guinea pigs for the number of units per c.c. It is then stored at low temperature for a time and finally filled into the syringes with which all are familiar. The potency of Diphtheria Anti-toxin is meaured in units per c.c. and it is usually dispensed in syringes, ready for administration, containing from 1000 units to 20,000 units in a single syringe. 1000 units is the usual dose for prophylactic purposes, while the average therapeutic dose is 10,000 units; but in severe cases this may be double, or more than this. It is impossible to estimate the number of lives saved by the timely administration of Diphtheria Anti-toxin; but we are safe in estimating that the mortality has been reduced not less than 50% under average conditions, and under favorable conditions an even greater reduction has been observed.

Tetanus Antitoxin, which was used so extensively during the great war for the prevention of lockjaw and the administration of which has become almost routine in all infected wounds, is prepared very similarly to the method used for the preparation of Diphtheria Antitoxin—the essential difference being that whereas in the case of Diphtheria Antitoxin the horses are immunized with injections of Diphtheria Toxin, in the case of Tetanus Antitoxin, tetanus toxin is used for the immunization of horses. The serum is collected and concentrated in the same way as in the case of Diphtheria Antitoxin. The average dose of Tetanus Antitoxin for prophylactic purposes is 1500 units, which should be given immediately following the occurrence of any infected wound, particularly if the wound is deep or punctured, or there has been bruising or soiling of the tissues. The tetanus germ is so widely distributed in nature that Tetanus Antitoxin should be administered to avoid the development of lockjaw following even very simple wounds. Tetanus Antitoxin is also used for the treatment of tetanus or lockjaw, and in this condition the antitoxin, instead of being administered subcutaneously, is administered intraspinally as well as intramuscularly, and very large doses are sometimes required.

Scarlet Fever Antitoxin is prepared by the immunization of horses with Scarlet Fever Toxin produced by growing the streptococci specific to scarlet fever in beef broth. It requires a longer period of treatment to satisfactorily immunize horses for the production of Scarlet Fever Antitoxin than it does to make either Diphtheria or Tetanus Antitoxin. The antitoxin is prepared in identically the same way as in the case of the other two antitoxins; but the testing is done entirely upon human beings. With the possible exception of certain species of goat, no animal has been found to give a satisfactory skin test reaction to Scarlet Fever Toxin, and therefore human beings are the only means we have, up to this time, for determining the strength of Scarlet Fever Antitoxin. This is done by mixing varying amounts of the antitoxin to be tested with a definite number of skin test doses of the standard toxin distributed by the Hygienic Laboratory, and injecting .1 cc of this mixture intradermally in the skin of individuals susceptible to Scarlet Fever. The results are read in 24 and 48 hours later by observing those injections which have been completely neutralized by the toxin and show no reaction in the skin. The value of scarlet fever antitoxin in the treatment of scarlet fever, has been conclusively demonstrated in the past three years as shown by the numerous reports that have appeared in the medical literature from various sources. The administration of scarlet fever antitoxin is followed by a rapid fall in temperature, fading and disappearance of the rash, disappearance of the toxemia and decrease

in the incidence of complications and sequelae.

A fourth antitoxin which has recently been developed is Erysipelas Antitoxin prepared by the immunization of horses with toxin produced by growing in beef broth the streptococci specific for Erysipelas. The administration of adequate doses of this anti-toxin, which is prepared and concentrated by methods similar to those used for the other antitoxins, has resulted in greatly lessening the mortality from erysipelas.

Another group of biological products are the so-called anti-serums which are not true anti-toxins; Anti-Meningitis Serum, used for the treatment of meningitis, and which is prepared by the immunization of horses by the injection of living cultures of meningococcus; Anti-Pneumococcic Serum, which is used for the treatment of pneumonia, particularly that caused by type one, is also prepared by the injection of horses with live cultures of pneumococci. These sera are used in the unconcentrated form, and their effects are not as prompt or as certain as in the case of anti-toxins.

Bacterial vaccines, of which typhoid vaccine may be taken as a type, are prepared by growing the specific bacteria (for example B. typhosus) on the proper media, suspending the resultant growth in physiological salt solution, and standardizing the number of bacteria per c. c., and killing the organisms present either by a low degree of heat or by long-continued effect of some chemical germicide.

The potency of some of the bacterial vaccines is determined by testing their agglutinin-producing properties upon laboratory animals, while in the case of others there is no generally accepted method of standardization other than the estimation of the number of bacteria contained in a single dose. The value of typhoid vaccine as a preventive of typhoid fever has been so conclusively demonstrated that it is a surprise to occasionally encounter individuals who fail to recognize this value.

Rabies virus is made by inoculating rabbits with strains of "fixed" virus which cause the death of the animal after a definite period. The spinal cord is removed under aseptic conditions from the animal and dried for varying periods of time over caustic soda; an emulsion is then made with the dried cord and appropriate doses for each day of treatment made.

Recently, there has come into quite widespread use the Semple modification of the rabies vaccine which consists of 14 doses all of the same strength of killed rabies virus. The results from the use of the Semple treatment have been exceedingly satisfactory, on account of the lessened numbr of injections and the convenience with which it can be carried in stock ready for use.

Another important group of biological products is that classed under the heading of "Toxins" which are used both for determining susceptibility to disease and for inducing immunity thereto. Diphtheria toxin, put out for the Schick test, consists of the proper dilution of diphtheria toxin, the injection of a small quantity of which into the skin of susceptible individuals is followed by a definite reaction indicative of susceptibility to the disease. Susceptible individuals so determined can be immunized by the injection of proper doses of diphtheria toxin-antitoxin mixture. Scarlet fever toxin for the Dick test is used in a similar way for determining those who are susceptible to scarlet fever, and the reaction following a dose of scarlet fever toxin is apparent earlier and persists for a shorter time than in the case of the Schick test for diphtheria susceptibility. Individuals who are found susceptible to scarlet fever as indicated by a positive Dick test can be immunized by the injection of adequate doses of properly standardized scarlet fever toxin. Unfortunately, some of the early workers with scarlet fever used doses of scarlet fever toxin insufficient to bring about a definite and lasting immunity; but the Dicks now recommend at least 52,000 skin test doses distributed over a course of five injections, and they report that such a scheme of treatment is followed by 80 to 85% of immune reactions. Lately there has come into use so-called "detoxified" scarlet fever toxin prepared by mixing scarlet fever toxin with sodium recinoleate solution. It is claimed by the advocates of this procedure that the injection of one dose of this toxin will be followed by a negative skin test in a high per centage of those injected. It is doubtful whether one injection of detoxified toxin can be relied upon to confer immunity to scarlet fever, and until its true value can be determined, it would seem wise to proceed with caution.

The U. S. Government since 1902 has exercised supervision over all firms entering into the manufacture and interstate sale of biological products, and no firm can sell biologicals unless they have a license from the Secretary of the Treasury giving them this permission. License is not issued to

any firm until inspection has been made of the plant, personnel, operation and the product produced therein. From time to time inspectors are sent to these plants to make a thorough and painstaking inspection of all the factors concerned in the production of biological products. They also carry back with them to the Hygienic Laboratory in Washington samples of the various products which are manufactured, and samples of these products are also purchased on the open market—all of which are examined periodically in the Hygienic Laboratory. Manufacturers are required to conform to at least certain minimum standards which have been established by the Government for biological products, but some firms are not content with conforming to the minimum standards but have established for themselves standards far exceeding the governmental requirements. It is therefore important that those using biological products should obtain them from a firm which has adopted this policy.

There is probably no line of therapeutic products which requires a higher specialized knowledge of the various problems connected with immunity, and more fundamental knowledge of biological and physiological chemistry than the manufacture of this important class of preparations and few realize the great responsibility connected with the manufacture and dispensing of these preparations.

All biological products are required to have thereon what is known as the potency date which is defined in the law as "that date beyond which the contents (of the package) cannot be expected beyond reasonable doubt to yield their specific results. The government has established a potency date for the various classes of biological products. All of the anti-toxins are marketed with an excess number of units contained in the package which will insure the user of at least the number of units stamped on the label until the end of the expiration date. Other biological products, such as smallpox vaccine, diphtherja toxin for the Schick test, scarlet fever toxin for the Dick test, etc., have a potency date which reasonably insure the activity of the product until the expiration date. It must be remembered, however, that certain biological products are much more subject to the influence of heat than other products. Smallpox vaccine, for example, if kept at temperatures above 50°F rapidly loses its ability to produce a successful "take" and, therefore, it should be stored at all times below 50°F.

Chorio-Epithelioma

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Read before Montgomery County Medical Society, Coffeyville, Kansas, March 18, 1927.

Chorio-epithelioma is formed by the proliferation of the cellular elements of the chorionic villi, namely, the syncytium and the cells of Langhans. In considering the growth of the tumor a brief review of the development of the enveloping membranes of the products of conception should be considered. The chorion is derived directly from the outer trophectoderm layer of the embryo. The trophectoderm of the embryo gives rise to a thickened outer layer, the trophoderm. The trophectoderm is the layer of Langhans cells, while the trophoderm is the synsytium. When the embryo develops, the trophoderm destroys the uterine mucosa, and villi grow out into the uterine mucosa. The trophectoderm evaginates into the villi. In the course of development of the placenta there is an invasive growth of chorionic villi into the uterine wall and it is not uncommon to find masses of syncytium-like giant-cells with many nuclei, lodged in the interstices of the muscle, deep in the uterine wall. Such masses have been found to invade blood vessels and to be carried as emboli into distant organs. These growths end harmlessly at the termination of pregnancy and they presently disappear.

During pregnancy there are two very curious anomalies of the chorionic villi. One is the hydatiform mole and the other is the chorio-epithelioma. In hydatiform moles there is a mass of polypoid gelatinous structures which hang together like a bunch of grapes. There may be no fetus at all, or the shrunken remnants of one, and the placenta is converted into a villous mass, which receives its name from its resemblance to the clusters of hydatids or cysts of the taenia larvae which are sometimes seen. Microscopically, these polypoid blebs are swollen chorionic villi, enormously enlarged, and covered with greatly proliferated epithelium. Chorio-epithelioma follow hydatiform moles in 50% of cases and many are preceded by normal pregnancy or abortion. It is true that a number of cases are reported in regions where fetal products are not likely to occur, but it is quite likely that the tumor develops either from congenital displacements or that other conditions have been mistaken for synctiomas. In chorio-epithelioma we have a carcinoma develop-

ing from the epithelial layer of the chorionic villi. There are two types, according to whether the syncytial elements prevail or the cells of Langhans. They are rapidly growing tumors, do not have their own blood supply and metastasis occurs early directly through the blood stream to liver, spleen, lungs, kidneys, brain, etc.

The diagnosis is made on the following symptoms:

1. Continual bleeding or hemorrhage following pregnancy, expulsion of hydatid mole, or abortion.

2. A uniformly enlarged uterus.

3. Sometimes a fungating growth protruding from cervix, or metastasis in vaginal vault.

The prognosis is variable depending on whether the Langhans cell or syncytial element predominates. The Langhans type is slow growing while the syncytial type is rapidly growing with an early tendency to metastasis.

The treatment is hysterectomy. There are cases on record where if the primary tumor was removed, the patient would recover, even with metastasis in the lung.

Mrs. R. H., 19 years old, white, married, housewife. C. C. Irregular bleeding, passing of clots, pain in left lower quadrant.

P. H. Patient had the usual childhood diseases. About two years ago while horse back riding, the horse fell with her, the saddle horn hitting her in the left lower abdominal region. She was in bed for some time at that time, but apparently completely recovered. Menses started at 14, always regular, some cramps, no clots. Denied any venereal infection.

P. I. About six months before I saw her she missed a menstrual period, and so promptly took some medicine for this common ailment. She had some cramps, began to bleed, and began to pass some clots. She was then under treatment but the bleeding continued at irregular intervals. At one time she stopped bleeding for 21 days. At the time I saw her, she was bleeding, felt week, and spent most of her time in bed.

Ph. Ex. The patient appeared thin, anemic, rather slender, and walked with a slight stoop.

Her physical examination was negative except the pelvic findings. A hard round mass was felt about 1½ inches above the pubic bone. The mass was somewhat tender on pressure, and was immovable. No masses or tender areas in any other part of the abdomen were found. No inguinal adenopathy.

Genetlia normal.

On vaginal examination, with the speculum, the cervix was small, not discolored, a small clot was protruding from cervical os. No discoloration of vaginal mucosa.

On bimanual examination the cervix was hard, and not freely movable. The uterus was enlarged to about the size of a medium grape fruit, hard,, regular in outline, and fixed. The body of the uterus was tender. No masses felt in either cul-de-sac.

In view of the possibility of retained placental tissue, the cervix was packed for twenty-four hours and allowed to dilate. She developed some pains, which finally left. The uterus was then cureted, but no placental tissue was found. There was profuse bleeding and a uterine pack was left in for twenty-four hours. In spite of all precautions used, in 72 hours, she developed chills and shot a high temperature. This went on for several days, and finally a blood transfusion was done, with immediate cessation of all symptoms of a puerperal infection. About five weeks later she was allowed to get out of bed, with return of all former symptoms. A pelvic examination at this time revealed a uterus of about the same size and consistency plus an irregular mass on the left side seemingly attached to the uterus. A working diagnosis was made of a pelvic abscess, with the possibility of an ectopic pregnancy. An exploratory laparotomy was made and the following findings were present. A boggy uterus about the size of a grape fruit. On the left cornu, a large, very dark red mass, about 1½ inches in diameter was attached to the uterus at the site of the left tube. There were several smaller ones on the anterior surface, on the left lateral surface and also some on the posterior side. These masses were very friable and bled freely. The bladder was attached to the anterior surface of the uterus, and the posterior bladder wall had the same appearance, dark red, and was also very friable. Hysterectomy was not performed because of the friable nature of the tissue. The largest mass at the left cornu was removed, and the abdomen closed with a drain.

The patient rallied well from the operation, when on the 3rd post-operative day, she suddenly developed a severe pain in the lower abdomen, and began to go into shock. At the same time the patient began to pass a thick bloody urine. She was given about 500 c. c. 10% glucose intravenously with 18

units insulin U. She had a severe chill following this but began to improve for a short time. On the 5th day a transfusion by the indirect method was done, the whole quantity being given about 800-900 c. c. The improvement was immediate. Through all this she continued to pass blood from the bladder, and she died on the 7th postoperative day.

LABORATORY REPORT

GROSS PATHOLOGY—Specimen consists of an irregular, rounded mass of tissue measuring about 4 cm in diameter. The external surface was covered with loose adhesions of both fibrous appearing tissue and a yellowish cellular like tissue. On cross section the structure showed masses of dense infiltrating hemorrhage and within this there were some irregular white cellular areas.

HISTOLOGICAL PATHOLOGY—The section shows a great deal of necrosis and rather extensive areas of hemorrhage. There is some slight secondary inflammatory reaction in the necrotic masses. Around the outside of these necrotic masses the tissue is vascular. Some very irregular and atypical masses and sheets of tumor cells may be noted, particularly around some of the blood vessels. These tumor cells in general are rounded, rather small and do not contain much cytoplasm and contain a rather deep satining nucleus. Among these smaller and rounded and palygonal cells there are several large syncytial like masses of cells, some with several nuclei and others with abnormally large nuclei and considerable cytoplasm suggesting a syncytial origin. The general architecture of the tumor tissue is extremely atypical anl unusual. It suggests a syncytioma but of an unusual and atypical character. These tumor masses may be seen infiltrating into the smooth musculature in one section. There is marked variation in the size, shape and staining of the cells. No definite mitotic figures, however, were seen.

DIAGNOSIS—Chorio - epithelioma, malignant.

H. R. WAHL, Pathologist.

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Treatment of a Case of General Paresis by Means of Coley's Fluid

J. ROTTER, M.D. and J. A. KNOOP, M.D.
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Mr. D. M., age 50 years; single; first seen Nov. 10, 1925; physical findings as follows: Patient was complaining of forgetfulness, lack of concentration, headaches, general debility, generally melancholic. His relatives noticed that his judgment along different lines was plainly defective and he frequently contradicted himself. On the whole, his behaviour was more or less uncertain.

A general examination revealed Argyl Robertson pupil, slight tremor of tongue, and his knee jerks were exaggerated, slight ankle clonus; Babinski positive. His blood Wassermann was 4 plus; urine showed albumin 1 plus. A diagnosis of general paresis was made and antiluetic treatment was advised. The patient carried out the suggestion and two series of salvarsan and mercury treatments were given by his family physician in another town.

On Jan. 6, 1926, some fourteen months later, the patient's sister brought him back for further advice. She stated that for the past several weeks, his memory had almost entirely disappeared and that he did not pay any attention to his surroundings; that he had completely lost his sense of decency; ate at the table with his fingers instead of using table ware and passed urine involuntarily. He had all sorts of delusions and hallucinations. His sister insisted that something more be done if possible.

Not having access to any malarial blood, we gave him intravenous injections of Tryparsemide 2 gm at weekly intervals—a total of four injections. His condition remained unimproved. We felt that in the absence of malarial blood it might prove beneficial to try some other protein which would give him the desired reaction and incidently one which might be controlled with more ease than a malarial infection. Accordingly we proceeded to give him intravenous injections of Coley's fluid every other day—beginning with three minims and gradually increasing until fourteen injections had been given. The last dose was 30 minims and the period of time covered by those was thirty-two days.

After the patient received his fourth injection, a plainly marked improvement was visible and by the time his fourteenth injection was given all hallucinations and delusions had disappeared. His mental condition had improved to the extent that he could carry on an ordinary conversation without apparently showing any sign of mental deterioration. His table manners and general moral tone were without fault.

We do not feel that this patient is capable of conducting his business, namely that of operating a hardware store, but we do feel that, under the direction of someone

else, he could fill almost any clerical position.

Upon cessation of administration of Coley's fluid, we resumed the injections of Tryparsemide supplemented by injections of Potassium-Bismuth-Tartrate 0.1 gm, of which two series each were given.

A blood Wassermann made on July 19, 1927, was 1 plus.

COMMENT

We are reporting this case because it is the only case in which, to our knowledge, such treatment has been used.

That Coley's fluid is much more flexible in its dosage and far more desirable than producing another disease such as malaria, which is not always easily controlled in patients with neurosyphilis, goes without saying.

It is hoped that this report will stimulate further work along the same line.

———R———

KANSAS MEDICAL LABORATORY ASSOCIATION

Laboratory Analysis of Milk

NEVA RITTER

Bacteriologist Kansas City Consumers' League

With ever-increasing attention being paid to the sanitary quality of our milk supplies, more and more laboratories are adding milk testing to their routine.

"Standard Methods of Milk Analysis of the American Public Health Association and the Association of Official Agricultural Chemsts" published by the American Public Health Association, 370 Seventh Avenue, New York City, price fifty cents, should be in the hands of everyone who is contemplating any official milk analysis.

In the Kansas City Consumer's League laboratory methods outlined in "Standard Methods" are followed as far as they are given, the following being a brief outline of their methods.

All samples are iced immediately upon collection and held around 45°F until plated. An unopened bottle of milk is usually used as a sample, but when samples are wanted from other sources they are collected in 1-ounce, screw-capped vials, which have been sterilized in an oven.

For most of the milk tested in this laboratory, a 1:100 dilution gives plates with less than 300 colonies. However, with a sample from an unknown source or one expected to have a high count, two dilutions are plated, 1:100 and either 1:1,000 (made by plating .1 cc of the 1:100 dilution) or 1:10,000. The 1:100 dilution is made by adding 1 cc of the milk to a 99 cc blank of sterile tap water. "Standard Methods" agar is used and incubation at 37.5°C for 48 hours.

Routine samples are examined for visible sediment by observing any moving specks there may be on the bottom as a bottle is turned. The official sediment test is used only when special information is wanted.

The Babcock fat test completes the routine.

Some other tests, found to be of value in the work of this laboratory and most of which are not in "Standard Methods" are:

Samples to check udder infection of the cow may be examined by the Breed method of microscopic count ("Standard Methods") with great success.

Lactose fermentation tests for members of the B. coli group, with confirmation on Endo or Eosin-Methylene blue plates, are made when there may be gross contamination.

Flavor presents such a complex problem that it must be approached by both bacterial and chemical tests, and field investigation of the feed of the cows and the dairy surroundings.

As a check on dairy sterilization, milk bottles which are ready to be filled are tested routinely as follows: The top of the bottle is flamed and cap removed and held in a flame while 100cc of sterile water is poured into the bottle and the cap replaced. It is then shaken twenty-five times with a rotary motion to wash the interior completely, and 1cc portions of this rinse water plated. Plates are incubated the same as milk plates. A count of such a plate, multiplied by 100, indicates the contamination of the bottle.

Skimming or watering of milk may be suspected when abnormal percentages of solids are found on calculation from the lactometer reading and butter-fat content, but this should be used only as a guide pointing to the making of more accurate tests, and not relied upon for official purposes.

The Rosolic acid test for carbonates as given in Leach, "Food Inspection and Analysis," page 167 (Fourth Edition), is useful in detecting neutralization of sour milk or cream.

———R———

A mental acrobat with a vivid imagination and considerable credulity might fully appreciate the scientific importance of some of the research work now being done. But no one can tell from a colt's teeth what kind of a horse he will make.

THE JOURNAL
of The
Kansas Medical Society

W. E. McVEY, M.D. - - Editor

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SLOW BUT SURE

As a result of the discussion on the subject of medical legislation at the last meeting of the Society, the Bureau of Public Relations was instructed to prosecute a vigorous campaign to secure a satisfactory law governing the practice of the healing art.

Several points were generally agreed upon by the members of the House of Delegates, one was that it was important to start the work early. With this in mind an effort has been made to develop a statewide campaign committee, and the councilors were requested to suggest members from each of the counties in their districts. As soon as these lists were received from the councilors the men suggested were advised of their appointment and requested to notify the Secretary of the Bureau if they were willing to serve on this committee. The larger part of these letters were mailed between the third and fifth of August. Additional letters were mailed to a few whose names were later suggested at various intervals since then. Up to the date of writing this, acceptances have been received from fifty of the men appointed. While a representative in each of fifty counties in the State should be able to do good work it falls far short of a complete organization. There are eight counties in the State in which there is no member of the Society. Of the ninety-seven men appointed on this committee there are forty-seven who have neither declined nor signified their willingness to serve. A little more time will be consumed in waiting for replies from these, and still further time will be lost in securing men to fill places on the committee not accepted by those already appointed.

In the meantime the work is getting well started. One of the first and most important things to be done is to learn definitely the attitude toward better laws governing the practice of the healing art of every candidate for nomination and to support only those who are known to be favorably inclined. This is really a matter of the utmost importance. The members of the medical profession can afford to forget party affiliations in a matter of this kind.

It is quite as important to ascertain the attitude of the members of the legislature who hold over. In some instances it will be possible to show them the advantages of a better control over those who attempt to heal the sick, but in any event it is very important to know how each one of them stands. In fact, it should be possible, when the next legislature meets, to know just how every member may be expected to vote.

Another point about which there was general agreement at the last annual meeting was that we should have fifteen or twenty doctors in the next legislature. One of our members has consented to be a candidate for the Senate and has secured the endorsement of his party leaders. There are quite a number of doctors in the state that could easily be elected to the House or Senate if they could be persuaded to get into the race, but it requires a good deal of time for a campaign of that kind and it costs some money. Then it means that if elected he must be away from his practice for at least two months at a per diem which does not meet his expenses. There are quite a few men in our profession, however, who

cen well afford to accept an honor of this kind at a pecuniary loss and will make whatever personal sacrifice is called for when made to realize how great a service they can render the profession as well as the people.

If we have fifteen members of the House and five members of the Senate that will stick together, there will be no difficulty in getting a bill passed. As one of our members, who has had considerable experience in legislative work, told us, legislation is largely a matter of compromise. There are a good many important bills before the legislature every year in which a matter of fifteen or twenty votes spells success or failure. The legislature don't care anything about medical legislation, that is simply something to play with and laugh at, but twenty men who go there to get medical legislation won't be played with very long if they stick together.

It is also quite important that the kind of legislation we shall ask for shall be definitely agreed upon. It was considered last winter that the Basic Science bill gave more promise of favorable consideration than any that could be devised. It provided for a board to examine every applicant in the basic sciences, anatomy, physiology, pathology, chemistry, bacteriology, etc. Receiving a certificate from this board the applicant must then apply to the Medical Board, Osteopathic Board or Chiropractic Board.

It in no manner disturbed the boards or the laws now in existence, but none of these boards are permitted to examine or pass upon an applicant until he has received a certificate from the Basic Science Board. It is of course a provision that this Basic Science Board shall be composed of men not engaged in any form of the healing art, but should be qualified in the Basic Sciences. The bill introduced last winter specified who should constitute this board so that any political advantages the creation of a new board might have afforded were lost. The constitution of the Basic Science Examining Board is an important problem that some one must find a satisfactory solution for before a similar bill is introduced.

If it be determined to attempt the passage of the Basic Science bill, there is another little piece of legislation that must not be overlooked. Some years ago when the law providing for a chiropractic board of examiners was passed an amendment was made to the Medical Practice Act which exempts both osteopaths and chiropractors from its provisions. Whether the Supreme Court would interpret this according to the wording of the amendment or according to the intention of the legislature has not been determined but certainly according to the wording neither an osteopath or a chiropractor can be prevented from practicing medicine under its provisions.

When the law creating the osteopathic board was passed, they did not desire or claim to practice medicine. Certainly it is very unfair to compel a doctor of medicine to go through such an ordeal as the examination given by the Board of Medical Examination only to come in competition with men who have been exempted from it. The doctors over the State do not seem to object so much to the osteopaths and chiropractors as such, as to these men practicing medicine and surgery. Of course there is no question whatever about the injustice of the matter as it now stands and it must be a part of our efforts to correct this situation.

SALVAGE THE WASTE

The science of medicine has been delayed in its development by a number of factors, some of them closely allied with the personal characteristics of those who have constituted the medical profession. Curiosity or inquisitiveness is one of the strongest and surest incentives to careful and thorough investigation. An insatiable curiosity alone is a greater incentive to honest, tireless, painstaking investigation than is a hope of honor or reward; or curiosity associated with a hope of honor or reward. Unfortunately there are not many men in medicine who have the sort of curiosity

that will resist the temptations of a lucrative practice or withstand the social and physical deprivations encountered by the persistent seeker of knowledge; and there are not many men in medicine who are endowed with such a curiosity and sufficient wealth to indulge it.

One might easily arrive at the conclusion that ambition is a more prevalent incentive than curiosity in a large per cent of the researches now being conducted. This is evidenced by the particular importance given to the question of priority, by the detailed descriptions of the hairline differences in the technical minutiae of the procedures and the meticulous care with which credit is given to each worker for any finding he may have made, whether of any particular bearing on the final developments or not. There must always be some suspicion of researches conducted under these conditions and few reports are accepted until the findings have been confirmed by other workers in the same line. It is possible at least that when ambition is the principal incentive, inaccuracies in the procedures will be overlooked or ignored and reports of findings will be premature.

Darwin began the study of medicine but didn't like it. He was endowed with marked inquisitiveness and sufficient wealth to supply all his wants. One can only imagine what he might have added to the science of medicine had he completed his course of instruction and devoted his inquisitive mind toward solving the riddles in the etiology of diseases.

Opportunities have fallen to the hands of many men to solve some of the greatest problems in medicine and they have allowed them to pass for lack of curiosity or other incentive to prosecute a search for further knowledge. It is doubtful if Alexis St. Martin offered the first opportunity for such investigations as were conducted by Beaumont, but Beaumont was the first man that had the incentive to take advantage of such an opportunity.

Some of the observations that have formed a basis for some of the most important findings in medicine had been made many times and by many men before they were made by one who had the curiosity to find an explanation or the ability and the facilities for conducting an investigation.

Most any man who has practiced medicine for a score of years has made some clinical observation that if properly verified and reported would have added something of importance to our knowledge of medicine. But it would be incorrect to say that if all of the clinical observations made twenty-five years ago had been reported the science of medicine would have been advanced twenty-five years, for several reasons. In many instances there is no opportunity for the physician to verify his observation in a sufficient number of cases to prove that the phenomenon of whatever nature may not have been merely a coincidence. Clinical findings which are not shown to occur with considerable regularity in a considerable number of cases, a number larger than the average general practitioner is likely to encounter in many years of practice, are not regarded as of scientific value; but even when so protected they must be carefully verified by other observers before they will be accepted. Provided, the observer is not among the recognized authorities in medicine, for in that case his dictum is accepted by the profession with greater confidence than the most elaborately detailed report of an unknown and unvouched for investigator.

Discoveries of great value to the profession are being made, by careful, persistent and thoroughly scientific investigators, that were known and recognized by some man somewhere in the profession many years before. For there are men in the profession endowed with Darwinian inquisitiveness but lacking in ambition and shy of publicity, so that what they learn, though never hidden from inquiring minds, is seldom broadcast. They are accomplishing things in their own little sphere of usefulness that the medical world knows nothing of and would refuse to believe if it were told.

In 1885 the writer witnessed a resection

of a knee joint, by a surgical genius in a little mid-western city, in which a common nail was used to hold the approximated ends of bones in place. He made no claim for originality or priority and considered the procedure as ordinary. But some twenty-five years later an Eastern surgeon reported a similar operation in which the use of a nail for the same purpose was mentioned as an original and unique procedure.

It seems to be a characteristic of men in the medical profession to first consider the source of any information handed them and then the possible value of the data presented. A man who is mostly unknown, who is not highly connected and vouched for, or who may not tail-out his name with a considerable part of the alphabet, stands a poor chance to be heard in the larger meetings of his fellows and a poorer chance of finding a medical journal that has room for his reports.

Much valuable information can be obtained from the unobtrusive, quiet, inquisitive men in medicine, for they are not secretive, but they abhor a loud-speaker and big headlines.

UNEXPECTED DEFENSE

The generation of doctors preceding this one and the generation preceding that regarded as extremely unethical any criticism of one or more members of the profession in the presence of laymen. Now that it seems to be a popular pastime for those who have been distinguished by the admiration and confidence of their confreres to arraign the profession in groups and in mass, in public lectures and in the newspapers, as criminals or potential criminals, it is particularly gratifying to find the strongest defense coming from laymen and from very unexpected sources. As an illustration we reproduce the following editorial which appeared in the Christian Science Monitor of July 28.

"Under the heading, 'The Flood of Medical Booze,' Dr. William Brady, who conducts a column in several newspapers in the United States having the general caption, 'Personal Health Talks,' recently made a number of startling statements regarding liquor and the medical profession. But few physicians of standing before prohibition ever prescribed as much as 100 pints of whisky in three months, he declared. In fact, he added, 'the scientific ground on which the medicinal use of alcohol rested was steadily crumbling away.'

"With the advent of the Volstead Act, he claims a good many doctors readily entered upon a criminal distribution of liquor. He adds significantly, however, that it is common knowledge that 'alcohol did our country infinitely more harm in the pre-prohibition days than even the synthetic, poisoned or bootlegged stuff does today.'

"In thus calling attention to what he refers to as a laxity of ethics in the medical profession, Dr. Brady runs the risk of giving the impression that such a practice as he describes is common. That some medical men lower themselves to these practices is true and deplorable. That most of them do so is false. It is important to avoid conclusions based on inadequate premises. And the sweeping implication that the medical profession is entering wholesale upon such dishonest methods cannot be too strongly denied."

It is always safe for one who is fanatically inclined to make broad statements that cannot be disproved any more than they can be proved; and there are always people who are glad to accept them as true. It would be interesting and perhaps instructive if some of these scarecrow fabricators would state the grounds upon which they base their conclusions that a revision of the Volstead Act to give more liberty to the doctors in prescribing alcoholics would make of the medical profession a profession of bootleggers. We have had and still have the privilege of prescribing opiates according to the requirements of our patients but no one has yet claimed that we are a profession of dope peddlers.

There is at least as large a proportion of honorable men in the medical profession as in any other group of citizens; however, one's estimate of any group of citizens is likely to be made up from his knowledge of the personal characters of his intimate associates in that particular group. Any member of the medical profession who believes that to leave physicians free to treat the sick as their knowledge and experience

may dictate, will make criminals of them, has been rather unfortunate in his associates.

CHIPS

Sick people are anxious to get their health back, but they don't care how it is done.

A lot of censure seasoned with just a little praise may be fairly palatable.

There are those who believe they can determine the relation of blood pressure to actual conditions better by palpating the pulse than by the use of a sphygmomanometer . But why not use both?

Our correspondent says: "There are several women in Los Angeles who wear two pairs of garters; one pair to hold their stockings up and the other pair to hold up traffic. It's a success."

There is a good deal of difference between what a man knows and what he thinks he knows. In medicine there is a lot of difference between what a man sees and what he thinks he sees. But no one has discovered a lens that will correct a mental strabismus.

The dendrograph is an instrment used to measure the growth of trees. It is belted to the tree and a pin stuck in the bark and attached at the other end to a lever records the growth on a dial. It is suggestel that this instrument be adapted to the needs of the ultar-dietitians, so they may determine the rate of growth of the arms and legs of non-agers and the shrinkage of the aged.

An old theory that has been rejuvenated is that "the heart is not the prime motive power of life, but as an organ plays a secondary part. It is the cells of the body, in absorbing and eliminating fluids, that constitute the chief motive power in forcing the blood through the system." It is very much easier to formulate a theory than to prove it.

A correspondent suggests that in using the liver diet in persons whose food antipathies cannot be overcome, liver may be prepared in the form of ice cream. He gives the following recipe: Cream, one-half pint; sugar, one-half ounce; cocoa, one-half ounce; ground liver, one-half ounce or more. Mix, freeze and eat.

It is reported that Dr. Victor E. Levine, professor of biologic chemistry and nutrition at the Creighton School of Medicine, Omaha, said at the sessions of the Western Hospital Association and the State Dietetic Association in convention at Los Angeles, June 2, 1927, that by the year 2000 the average span of human life will have increased to 100 years. He did not say what a man's object would be in living so long. It would at least be interesting to know on what grounds he bases his prediction.

The census report for 1924 shows that only three people out of each 100,000 live to be 100 years old. It is claimed that the average span of human life is now 58 years. This has been brought about largely by the prevention of contagious diseases among children. There were 209,642 more children under five years of age in 1924 than in 1922, but there were 17,492 fewer deaths. There was very little difference in the proportionate number of deaths in other age groups.

A method has been suggested by Rabl for softening the bones in children before attempting to correct deformities. This he accomplishes by producing a general and local acidosis. Ammonium chloride, 0.2 g. per kg. of body weight per day, is given to produce the general acidosis. To produce local acidosis a rubber bandage is applied to cause congestion in the limb. It is used tight enough to produce slight cyanosis and is kept on for about twenty hours daily. In from 8 to 18 days the bones are so soft that they can be bent and the deformity corrected. During this preparation antirachitic diets and sunlight are avoided. As soon as the deformity has been corrected they are put on antirachitic treatment.

Obesity is caused by an anormally increased transformation of carbohydrates into fats is the conclusion arrived at by Hagedorn, Holten and Johansen, from some experiments recently reported in the Archives of Internal Medicine for July. A number of normal and obese persons were examined to determine their respiratory quotients after they had eaten for two days a diet consisting chiefly of carbohydrates. The respiratory quotients were lower in obese persons than in normal ones and a relation was established between the percentage of overweight and the respiratory quotient. Patients with great overweight have a particularly low respiratory quotient, those with less overweight have a respiratory rate nearer or within the normal limits.

Is It True?

THE PRODIGAL

The National Astrological Association is in session in Hollywood, California (July 30, 1927). The assertion is made that "Astrology is a science." At the same time, one of the purposes of the meeting is "to establish Astrology on a scientific basis." So far so good. The next statement is that "many physicians use astro-therapy in their practice. Its main purpose is to help by revealing tendencies which may make or mar a life. The science itself rests on a scientific educational basis. When properly understood it is a great aid in building character, stimulating effort and giving strength and courage for life's battles. As the first procedure of the physician is to diagnose the malady, so the purpose of astrology is to reveal causes which lead to effects, mental, moral and physical. The basic cause being known, the first step is taken in the curative work. The relation of surgery and medicine to astrology and diagnosis, by astrology, given by authorities, are features of the convention."

Astrology promises to be another study in the curriculum of the medical college, titled astro-therapeusis. The study will be confined to the zodiac as a cause of disease and will be a specialty. The zodiac as the cause of a disease cannot be easily removed. But, knowing the cause, the same as knowing of any threatened danger, is a forewarning and will help to sidetrack its bad effect. The almanacs of fifty years ago always carried the signs of the zodiac on the second page. The sign was the picture of a man, standing nude, frontface, arms outstretched, belly cut open and contents exposed. He was encircled by a ring and there were twelve arrows equally spaced on the circle, representing the twelve months in the year, the arrow heads pointing toward some vital organ in the man's body. The arrows pointed from each month to a specific organ, told what should or should not be done to the animal during that month. For example, suppose the arrow from April pointed to the heart, showed that a calf should not be weaned in April. If the May arrow pointed to the generative organs, the pig, calf, colt, etc., should not be castrated in May, and so on down the line.

This explanation will give the surgeon an outline for his guidance and he can guess at and fill in at the time when to operate, according to his knowledge of the movements of the zodiac. The physician or internist will have to work out his own salvation—with fear and guessing.

It seems to me that astro-therapy, mind treatment or psychology in all of its phases, Christian Science included, may be summed up in two words—suggestive therapeusis—and is the same as religion. Any religion that makes a man a better citizen and an all around man is a good religion, and any treatment that cures or helps to cure a sick patient is good therapy. The astro or zodiac cult will soon be with us.

By the way, in the newspaper write-up of the astrological meeting, the statement is made that "many physicians now practice astro-therapeusis, but fear of ridicule, shame or cowardice on the part of such practitioners keeps them from letting it be known."

Are you guilty?

———B———

SOCIETIES

STAFFORD COUNTY SOCIETY

Society met Aug. 10th at 8:00 P.M., at the residence of Dr. J. T. Scott in St. John. This was the third public meeting held this summer and the largest in attendance, there being over seventy-five people present.

The Stafford County Medical Society claims originality in the innovation of inviting the public to their regular monthly meetings, and is thoroughly convinced of two things: first, that the public is interested and will attend; second, that it is the practical method of disseminating medical propaganda.

Dr. Bernstorf of Pratt, one of the speakers of the evening, told the writer that the Pratt County Society would inaugurate the same custom.

Dr. Scales of Hutchinson, another speaker on the program said: "I am astonished at this great attendance and interest of the lay public."

For the benefit of other County Society Secretaries who may decide to experiment in inviting the public, I give another of the popular programs that have been so well received:

1. Medical Progress, Dr. H. L. Scales, Hutchinson.
2. X-Ray Pictures of Arm Fractures, Dr. W. F. Bernstorf, Pratt.
3. Violin Solo, Miss Ione Aitken, St. John.
4. Reading, "A Real Asset," Miss Betty Scott, St. John.
5. Vocal Solo, Mrs. J. F. Williams, St. John.
6. Refreshments.

There is no possession, no earthly wealth,
Comparable to that of having good health;
Are you just living to eat and drink,
Or eating and drinking to LIVE? Just think.

Dr. Scales went back of the discovery of the microscope and told of the wonderful progress medicine hade made, particularly in the last fifty years. How it had more than kept step with all other departments of science and had made possible the accomplishment of great industrial projects that awaited medical discoveries. His language was chaste, refined and nontechnical. He not only interested his audience, but delighted them as well.

Dr. Bernstorf gave another of his popular talks on fractures and displayed radiographs of the difficult and dangerous arm fractures.

Miss Ione Aitken gave two violin numbers that could not have been better rendered by a master.

Mrs. Williams' voice was at its best and of course she sang beautifully. Mrs. Osborne, as pianist, and Miss Aitken, as violinist, accompanied her.

Miss Betty Scott, eight years of age, was showered with congratulations at the conclusion of two readings, "A Real Asset" and "The Bugaboo."

Following the program light refreshments were served cafeteria style and everybody remained for the eats and concluding half hour of social intercourse.

J. T. SCOTT, Secy.

FRANKLIN AND ANDERSON COUNTY SOCIETIES

At a joint meeting of the Franklin County and Anderson County Medical Societies, an annual meeting, a chicken fry supper was held at Richmond club house. The speaker was Charles B. Griffith, former attorney general of the state, whose subject was "Jealousy, the Scourge and Canker of Mortals." The former attorney general took as his motif, Othello, the Moore of Venice. From this masterpiece of Shakespeare he monologued the lines and interspersed his own inimitable comment, bringing out to his hearers all the finesse of the great playwriter in dealing with his subject.

The meeting of the two societies was well attended. Caretaker Wantland and wife had charge of the serving. Among those present were:

Dr. Hare, president, and Mrs. Hare, of the Anderson County Society; Dr. and Mrs. Hood, Dr. and Mrs. Johnson, Dr. Turner and Dr. Milligan, all of Garnett; Dr. and Mrs. Douglas, Dr. and Mrs. Secaley, Dr. and Mrs. Spears, of Osawatomie; G. F. Kaiser, Miss Clara Kaiser, Mrs. P. H. Klinkenberg, Mr. and Mrs. J. L. Shelden, Homer Kint, John Quinn, Drs. Dawson and Louis Gilley, Mr. and Mrs. Bert Bell, Mr. and Mrs. Harold J. Lamb, Dr. and Mrs. P. R. Young, Dr. and Mrs. H. J. Terrill and daughter, Dr. and Mrs. F. A. Trump and son, Dr. V. E. Lawrence, Miss Emily Lawrence, Dr. and Mrs. H. L. Kennedy, Dr. J. M. McWharf, Dr. H. W. Gilley, Dr. John Dyer, Dr. T. C. Hinkle, Dr. Josaphyne E. Davis, Dr. George W. Davis, president, and Dr. J. R. Scott, secretary, of the Franklin County Society, all of Ottawa.

Program—Medical Society of the Missouri Valley, Des Moines, Iowa, September 14, 15, 16, 1927

The annual meeting of the Missouri Valley Medical Association will be held at Des Moines, September 14, 15 and 16. All who attended the Omaha-Council Bluffs meeting of this association last year were loud in their praises of the program. A program of equal, if not greater, value has been provided for the Des Moines session.

Members from the faculties of the universities of the district are cooperating in sending the best that they have to these meetings. Over half the program will be given by men from the faculties of Iowa, Kansas, Nebraska, Creighton, St. Louis and Washington Universities.

The following guests will appear on the program: W. T. Bovie, Ph. D., Professor of Biophysics, Harvard University; A. J. Carlson, Ph. D., M. D., Professor of Phsysiology, University of Chicago; George B. Eusterman, M. D., of the Mayo Clinic, Rochester; Herman L. Kretschmer, M. D., Professor of Urology, Rush Medical College; Lewis J. Pollock, M. D., Professor of Neurology and Psychiatry, Northwestern University; Oscar M. Gilbert, Associate Professor of Medicine, University of Colorado.

There will be an ample number of clinics. In addition material of interest will be presented by selected members of the association. It has been the policy of the Program Committee to select the men and work to be presented and not to send out general requests for papers. Only in this way has the committee felt that the high standard of the programs of the last two years can be maintained.

Following is the preliminary program for the meeting:

WEDNESDAY MORNING SESSION

9:30 Recent Developments in Muscle Physiology—H. W. Dahl, M. D., Des Moines, Iowa.

10:00 Clinical Signs of Peripheral Nerve Injury—Lewis J. Pollock, M. D., Professor and Chairman of the Division of Neurology and Psychiatry, Northwestern University College of Medicine, Chicago, Ill.

10:30 Recent Developments in Pernicious Anemia—Walter L. Bierring, M. D., Des Moines, Ia.

11:00 Facts and Fancies on Present Day Organotherapy—A. J. Carlson, Ph. D., M. D., Professor and Chairman of Department of Physiology University of Chicago Medical School, Chicago.

AFTERNOON SESSION

2:00 Clinic—Lewis J. Pollock, M. D., Professor and Chairman of the Division of Neurology and Psychiatry, Northwestern University College of Medicine, Chicago, Ill.

3:00 Granuloma Coccidioides with Report of a Case—C. C. Tomlinson, M. D., Assistant Professor of Dermatology and Syphilology, University of Nebraska College of Medicine, and Paul Bancroft, B.Sc., Fellow Department of Experimental Medicine, University of Nebraska College of Medicine, Omaha, Neb.

3:30 Study of a Case of Nephritis—A. D. Dunn, M.D., Professor and Chairman of the Department of Experimental Medicine, University of Nebraska College of Medicine, Omaha, Neb.

4:00 Foreign Bodies in the Esophagus and Respiratory Passages—Bernard M. Kully, M. D., Assistant Professor of Otorhinolaryngology, Creighton University College of Medicine, Omaha, Neb.

4:30 Surgical Treatment of Carcinoma of the Breast and Acute Gangrenous Perforated Appendicitis—Illustrated by Motion Pictures—Caryl Potter, M. D., St. Joseph, Missouri.

EVENING

8:15 How We Learned to See and How We Have Learned Some Other Things (by request)—W. T. Bovie, Ph. D., Professor of Biophysics, Harvard University, Boston, Mass.

9:30: "Tigers"—Lantern Slide Talk on Big Game Hunting in Indo-China and India—Richard L. Sutton, M. D., Professor of Dermatology, University of Kansas College of Medicine, Kansas City, Kan.

THURSDAY MORNING SESSION

9:00 The Problem of Ureteral Obstruction—Nelse F. Ockerblad, M. D., Associate Professor of Clinical Urology, University of Kansas College of Medicine, Kansas City, Kan.

9:30 Consideration of Some Border-line Problems in Urology.Herman L. Kretschmer, M. D., Professor of Urology, Rush Medical College, Chicago, Ill.

10:00 The Diagnosis and Modern Treatment of Trigeminal Neuralgia Major—Wm. T. Coughlin, M. D., Professor of Surgery and Director of Department, University of St. Louis, School of Medicine, St. Louis, Mo.

10:30 Etiology and Mechanism and Treatment of Hypertension—Ralph H. Major, M. D., Professor of Medicine, University of Kansas College of Medicine, Kansas City Ks.

11:00 Some Fundamental Principles of Radiation Therapy—W. T. Bovie, Ph. D., Professor of Biophysics, Harvard University, Boston.

AFTERNOON SESSION

2:00 Clinic—Herman L. Kretschmer, M.D., Professor of Urology, Rush Medical College, Chicago, Ill.

3:00 Perverted Physiology as a Factor in Diagnosis of Diseases of the Biliary Tract—C. C. Nesselrode, M.D., Associate Professor of Surgery, University of Kansas College of Medicine, Kansas City, Ks.

3:30 Some Observations on the Treatment of Pernicious Anemia—A. P. Munsch, M. D., University of St. Louis, St. Louis, Mo.

4:00 Clinic—Wm. T. Coughlin, M. D.,

Professor of Surgery and Director of Department, University of St. Louis School of Medicine, St. Louis, Mo.

EVENING

6:30 Dinner — Presidential Address — Salt in Medicine—Thomas G. Orr, M. D., Professor and Chairman of Department of Surgery, University of Kansas College of Medicine, Kansas City, Kan.

FRIDAY

9:00 Hopeful Aspects of the Study of Cancer—David P. Barr, M. D., Professor of Medicine, Washington University, St. Louis, Mo.

9:30 High Lights of Gastro-enterologic Progress—George B. Eustermann, M. D., Mayo Clinic, Rochester, Minn.

10:00 Foreign Protein Treatment in Obstetrics and Gynecology—E. D. Plass, M. D., Professor and Chairman of Department of Gynecology and Obstetrics, University of Iowa College of Medicine, Iowa City, Ia.

10:30 The Duties of Practitioner in Prevention of Spinal Deformities—Arthur Steindler, M. D. Professor and Chairman of Department of Orthopedics, University of Iowa College of Medicine, Iowa City, Ia.

11:00 Atypical Chronic Glomerulor Nephritis—Fred A. Smith, M. D., Professor and Chairman of Department of Theory anl Practice of Medicine, University of Iowa, College of Medicine, Iowa City, Ia.

11:30 Observations on the Arrest of Dental Caries in Children—J. D. Boyd, M. D., Professor of Pediatrics, University of Iowa, College of Medecine, Iowa City, Ia.

AFTERNOON SESSION

1:30 Clinic—George B. Eusterman, M. D., Mayo Clinic, Rochester, Minn.

2:30 (Title unannounced)—Donald Maccrae, M.D., Council Bluffs, Ia.

3:00 Practical Application of Forceps, Illustrated on the Maniken—F. B. Langdon, M. D., Des Moines, Ia.

3:30 The Control of Ciliary Activities with Clinical Implication—James F. McDonald, M. D., Professor of Physiology, Creighton University College of Medicine, Omaha, Neb.

4:00 Progress in the Treatment of Tuberculosis — Oscar Monroe Gilbert, M. D., Associate Professor of Medicine, University of Colorado College of Medicine, Boulder, Colo.

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The American College of Surgeons

The American College of Surgeons will hold the seventeenth Clinical Congress in Detroit, October 3-7. Headqarters will be at the Book-Cadillac and Statler hotels, and the meetings will be held at the Statler Hotel and Orchestra Hall. The Hospital Standardization Conference will extend from Monday morning to Thursday afternoon and will include a discussion of hospital and nursing problems and hospital demonstrations. Monday evening's program will include an address of welcome by the local chairman, the address of the retiring president, the inaugural address of the new president, and the John B. Murphy oration. Clinics in general surgery will be held in the Detroit hospitals each morning from Tuesday to Friday, and in eye, ear, nose and throat work the same afternoons. Clinics will also be held at University Hospital, Ann Arbor, Tuesday to Thursday. On Tuesday and Wednesday mornings and afternoons, and on Thursday morning, clinical demonstrations will be held at the Statler Hotel (mornings) and Orchestra Hall (afternoons). On Thursday afternoon the annual meeting of the Governors and Fellows will be followed by a cancer symposium. On Friday afternoon there will be a symposium on traumatic surgery, to be participated in by leaders in industry, labor, indemnity organizations, and the medical profession. On Tuesday evening the program will take the form of a celebration of the Lister centennial. On Thursday evening there will be a large Community Health Meeting in the Masonic Temple, and on Friday evening the annual convocation of the college. Other outstanding features will be the exhibits. In addition to the commercial exhibits there will be a replica of the Lister exhibit at the Wellcome Museum of Natural History, London, including Lister's operating rooms and hospital wards. The Departments of Hospital Activities, of Literary Research and of Clinical Research of the college will also present exhibits. Among the foreign guests will be Sir John Bland

Sutton, England; J. M. Munro Kerr, Scotland; Gordon Craig, Australia; Gustaf E. Essen-Moller, Sweden; S. A. Gammeltoft, Denmark. The retiring president is W. W. Chipman, Montreal, and the president to be inaugurated, George David Stewart, New York. The Lister oration will be delivered by W. W. Keen, Philadelphia. The chairman of the Detroit Committee on Arrangements is Alexander W. Blain.

BOOKS

Heart and Athletics by Dr. Felix Deutsch and Dr. Emil Kauf, translated by Louis M. Warfield, M.D. Published by C. V. Mosby Co., St. Louis. Price $2.50.

The transalator says: "There is no single volume in the English language to which one can turn to find authorative opinions upon the influence of athletics upon the heart." The material upon which the researches were made was drawn from the "Heart Station" in Vienna where thousands of athletes were examined. It has been possible therefore for the authors to collect very definite data upon which to found their conclusions. Since the effects of various forms of athletics upon the heart have been demonstrated by measurements there can be no question as to the authoritative character of the work presented.

The Medical Clinics of North America (issued serially, one number every other month). Vol. II, Number 1, (Chicago Number—July 1927). Octavo of 294 pages with 26 illustrations. Per clinic year (July 1927 to May 1928). Paper, $12.00; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company.

Aneurysms of cerebral vessels is discussed by Pollock in the July number of the Medical Clinics. Senear presents a clinic in which are shown some varieties of skin diseases. Taub has for his subject pulmonary tuberculosis and diabetes and the treatment with artificial pneumothorax. Laing describes some migraine types in relation to the gastrointestinal tracts. Gatewood's contribution is on nephritis and alkalosis in duodenal ulcer. There is an article by Hutton on endocrine disorders as related to syndromes. Williamson and Birch have an article on hemophilia and present a genealogical chart. Abt gives some advice in regard to the examination of an infant with special consideration of abdominal palpation. There are numerous other articles no doubt just as interesting and important as the ones mentioned.

Diseases of the Eye, a manual by Charles H. May, M.D. Twelfth edition, revised. Published by William Wood and Company, New York. Price $4.00

This very well known and highly appreciated little textbook on the eye has been very thoroughly revised and brought up to date. Its conciseness recommends it particularly to the general practitioner who has occasion to treat diseases of the eye.

Overcoming Tuberculosis, by Gerald B. Webb, M.D., and Charles T. Ryder, M.D. Third edition revised. Published by Paul B. Hoeber, Inc., New York. Price $2.00.

This, the third edition of a little book formerly published under the title "Recovery Record," is written for the information and guidance of the patient with tuberculosis and contains a number of blank charts upon which he is supposed to keep a record of his temperature and pulse.

The Surgical Clinics of North America (issued serially, one number every other month). Vol. 7, number 3 (Chicago Number—June 1927). 330 pages with 81 illustrations. Per clinic year (February 1927 to December 1927). Paper, $12.00; Cloth, $16.00 net. Philadelphia and London; W. B. Saunders Company.

There seems to be an unusual number and variety of cases described in the June Surgical Clinics. Brain lesions and head injuries are presented by Bevan. In other clinics tumors, both malignant and benign, of many varieties are discussed. Koch presents a number of cases of skin grafting that are instructive. One of the very practical contriutions is on the subject of acute backache by Cox, and another by Cornell on the management of heart cases in pregnancy and labor. Ryerson has a clinic on ununited fractures. Eisendrath presents some postoperative complications in urology and Koll discusses a renal and ureteral calculi. O'Conor presents a series of cases of traumatic dislocation of the kidney. These are just a few of the subjects presented but they will perhaps give some idea of the scope of ground covered.

Lippincotts Pocket Formulary by George E. Rehberger, M.D. Published by J. B. Lippincott Co., Philadelphia.

This little book gives the names of diseases in alphabetical order and prescriptions that may be used in their treatment. When one has made a diagnosis then he may take this little book out of his pocket and copy a prescription or two. It is really quite up to date and the treatments suggested are those to be found in the latest text books and in the current literature, it even mentions the Minot-Murphy diet in pernicious anemia. In fact, it may prove

of considerable value to a good many competent practitioners.

American Illustrated Medical Dictionary. The terms used in Medicine, Surgery, Biology, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Medicine and kindred branches. Edited by W. A. Newman Dorland, M.D., Member Committee on Nomenclature and Classification of Diseases of American Medical Association, Fourteenth Edition, Revised and Enlarged. Octavo of 1388 pages, 319 illustrations, 107 in colors, Philadelphia and London: W. B. Saunders Company, 1927. Flexible binding, Plain, $7.00 net; Thumb Index, $7.50 net.

As long as advances continue to be made in medicine new words will be coined. But as facts replace theories more and more words will become obsolete. A great many words are coined to express conditions that are not clearly understood. However, as long as new words are coined dictionaries will need to be frequently revised. Although it has been but two years since the last edition of Dorland was published, more than two thousand new words have been added. In addition to the new words the definitions of some of the old words have had to be changed.

This dictionary has been arranged for the greatest convenience of consultation and also for the conservation of space. Particular attention is given to pronunciation and a very simple method is used for expressing the sounds.

International Clinics, a quarterly of illustrated clinical lectures and especially prepared original articles, edited by Henry W. Cattell, M.D., with the collaboration of numerous others. Volume II, Thirty-seventh series, 1927. Published by J. B. Lippincott Co., Philadelphia.

The first article in this volume is on allergic diseases in relation to climate by W. Storm Van Leeuwen. Bishop presents a heart-block clinic. Clark discusses a neuropathic constitution. Robinson has a paper describing the causes and cure of bunions. Pack discusses anal and rectal neoplasms. Robertson discusses the social economic phase of heart disease. Montague has a paper on pruitus ani. A new feature of the clinics is presented under the head "Travel Clinics" in which are described some of the work in foreign hospitals. Another new feature is a medical questionnaire in which the editor gives detailed answers to questions sent in. There is an abundance of interesting and instructive matter in this book.

A Text Book of Pathology. By Alfred Stengel, M.D., Sc.D., Professor of Medicine, University of Pennsylvania, and Herbert Fox, M.D., Professor of Comparative Pathology, and Director of the Pepper Laboratory of Clinical Medicine, University of Pennsylvnia. Eighth Edition, Reset. Octavo of 1138 pages with 552 text illustrations, many in colors, and 18 colored plates. Philadelphi and London: W. B. Saunders Company, 1927. Cloth, $10.00 net.

There is no particular need for comment on a book that has come to an eighth edition except to say that it has again been carefully revised and such corrections made as were necessary to bring it up to date. This is one of the standard text books in medicine.

The Medical Clinics of North America, Heart number. May, 1927. Published by W. B. Saunders Co., Philadelphia.

The contributors to the heart number of the clinics are nearly all associated with the University of Pennsylvania School of Medicine. There is first an article by Stroud on the clinical value of the electrocardiograph, then an article by Eiman on the bundle of His and its relation to diseases of the heart, then Tolley tells us how to distinguish cardiac arhythmias at the bedside. McMillan discusses the value of the polygraph in cardiac diagnosis. Norris has a paper on acute endo-carditis and Wolferth gives the diagnostic signs of heart failure. Hughes discusses pericarditis. Sailer gives the diagnosis of aortic aneurysm. Anders has a very instructive article on angina pectoris. McCrae talks about the circulation in relation to surgery. Pendergrass calls attention to some very important points in x-ray examinations of the heart.

Then there is a paper on sickle cell anemia by Stanfield and Klauder, one on general paralysis of the insane by Wilson and Winkelman and one on indican by Saxon.

The New Medical Follies by Morris Fishbein, M.D., Editor of the Journal of the American Medical Association. Published by Boni and Liveright, New York.

There is no one better qualified to write about the cults, the medical fads and the pseudo-medical fads than is Dr. Fishbein. His position gives him opportunity to learn more of the facts about such things, and he is a fearless critic. When one begins to read this book he is sure to finish it. The author has no difficulty in saying what he wants to say and saying it so that there is no mistaking what he means. His conclusions and his criticisms are not haphazard, but are the results of careful and thorough investigation.

1926 Collected Papers of the Mayo Clinic and the Mayo Foundation, Rochester, Minnesota. Octavo of 1329 pages, with 386 illustrations. Phila-

delphia and London: W. B. Saunders Company, 1927. Cloth, $13.00 net.

Another volume of collected papers of the Mayo Clinic has recently been published. Only those papers that seemed to the editors to meet the interest of the general surgeon and diagnostician have been published in full, those of less general interest have been abstracted or published by title, giving the date and place of former publication. These collected papers have made available in convenient form a great deal of the more important current literature on scientific medicine.

Physical Diagnosis by Richard C. Cabot, M.D., Professor of Medicine in Harvard University. Ninth edition, revised. Published by William Wood and Company, New York. Price $5.00

In this revision a good many changes have been made, particularly in the chapter on cardio-vascular diseases. Other chapters have also been revised. One of the striking features of the book is the illustrations, a great many of which are made from photographs of patients, illustrating the various conditions under discussion. Throughout the text there is reflected the diagnostic acumen of its author.

Disorders of the Nose, Throat and Ear, by Aaron Roth, M.D. Published by Physicians and Surgeons Book Company, Brooklyn.

This book is written for laymen and the author has attempted to simplify the descriptions of the diseases of these organs for their understanding. He has presented the subects as well as they could be presented with that obect in view. Just why any physician hopes to teach the people how to diagnose and treat their own diseases is hard to understand. He cannot possibly impart to the people in one little book the knowledge and experience it has taken him many years to acquire. The effort is futile, the results are usually more harmful than beneficial.

Text Book of Bacteriology. By William W. Ford, M.D., Professor of Bacteriology, School of Hygiene and Public Health lecturer in Hygiene, School of Medicine, Johns Hopkins University. Octavo of 1069 pages with 186 illustrations. Philadelphia and London: W. B. Saunders Company, 1927. Cloth, 8.50 net.

In this work the author has given accurate descriptions of all the micro-organisms ordinarily encountered in medicine. Considerable space is also given to bacteriologic technique, formulae for stains and the methods for using them, and all the other details of bacteriologic study. The subjects of infection and immunity are also discussed and the current opinions on these subjects are carefully presented.

The Human Body in Pictures by Jacob Sarnoff, M.D., published by Physicians and Surgeons Book Company, Brooklyn.

The author's idea seems to be to illustrate by films and moving anatomic pictures the anatomy of the body as it is usually taught to the pupils of public schools. Presumably the illustrations given are pictures of films that are to be used in connection with the text. They seem to be largely diagramatic, but if these illustrations are even fair reproductions the writer fails to see in what way a student would gain any real knowledge of anatomy from their reproduction.

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Clinical Congress of Physical Therapy and Sixth Annual Meeting American College of Physical Therapy.

The American College of Physical Therapy announces that plans have been completed for its 1927 Clinical Congress of Physical Therapy and 6th Annual Meeting, to be held at the Hotel Sherman, Chicago, October 31st to November 5th.

The program is extraordinary in character. The first three days are to be devoted to a school of instruction. For this purpose the country's most prominent clinicians and teachers have been selected and intensive fundamental and clinical training will be given. There will be one day of sectional meetings, the following distinct sections being represented: (1) Medicine, Diagnosis, Pediatrics and Endocrinology; (2) Surgery, Gynecology, Urology, Orthopedics; (3) Eye, Ear, Nose, Throat, Oral Surgery.

The fifth day of the Congress will be devoted to a Joint Session. Numerous special addresses by some of the foremost leaders in medicine will be offered. These will be of general interest to all whether in one specialty or another. The closing day will be given over to hospital and dispensary clinics.

Inasmuch as physical therapy has made such rapid strides in the past few years, a gathering such as this is of vital interest to every practitioner and specialist. The program in itself is attractive, but additional features in scientific and commercial exhibits, demonstration clinics, small group conferences, etc., will help to make this congress an unusual event.

Physicians in good standing in their county societies are eligible to attend as

are also technicians and doctor's assistants properly vouched for.

Those contemplating attendance are urged to enroll by mail as early as possible. The fee for the instruction classes is $10.00, payable by all, whether fellows of the college or not. Non-fellows of the college must pay in addition a registration fee to the assembly of $5.00. Send for program and information to Chairman, Convention Committee. American College of Physical Therapy, Suite 820-30 N. Michigan Ave., Chicago.

To Prevent Rabies

It is no longer necessary to send patients to Pasteur institutes for antirabic inoculations. Rabies Vaccine (Cumming) P. D. & Co., is superior in potency to the Pasteur method and may be administered by the physician in the office or at the home with no more technic or difficulty than an ordinary hypodermic injection. There is no gradation of dose; all doses are alike.

We understand that Rabies Vaccine (Cumming) P. D. & Co., is made by the method devised by Dr. James G. Cumming. A one per cent suspension of rabic brain tissue (from rabbits dying of rabies inoculated by an injection of fixed virus) is dialized against running, distilled water until the inefectivity of the virus is destroyed.

The safety of the finished product is assured by injecting this material beneath the dura of rabbits, and subcutaneously in guinea pigs and mice. Sterility tests are also utilized to insure freedom from bacteria. The vaccine is standardized by weight so that 2 cubic centimeters of suspension, the contents of one of the syringe containers, contains sufficient material for one injection for an adult. The safety and efficiency of Rabies Vaccine (Cumming) P. D. & Co., has been amply demonstrated by its employment in a large series of cases.

Parke, Davis & Company offer a 24-page illustrated booklet "Rabies Vaccine, (Cumming)," to any physician on request.

Hypodermoclysis—A Description of a New Apparatus

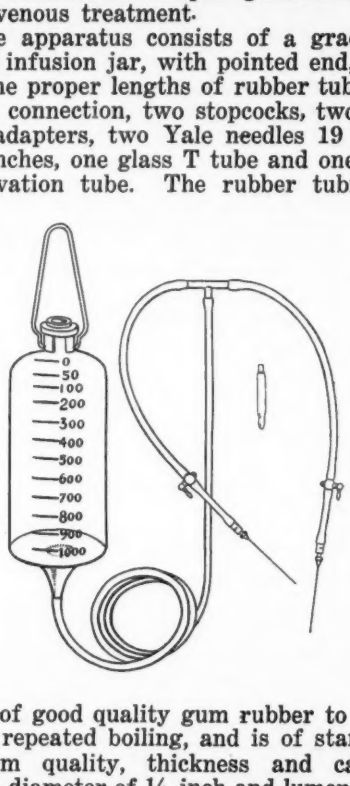
AUGUSTUS HARRIS, M.D., Brooklyn, N. Y.

Read before the Brooklyn Urological Society, April 12th, 1927.

The set herewith presented is simple, efficient and overcomes all the disadvantages of those hitherto employed. It is adapted to both subcutaneous and intravenous use; in fact, it may be used for intravenous salvarsan, glucose or citrate transfusions.

For intravenous work the writer has found the B-D Fordyce needles (assorted sizes) to be ideal. The principes outlined by Fantus in his "Technic of Medication" are a valuable and helpful guide in routine intravenous treatment.

The apparatus consists of a graduated Kelly infusion jar, with pointed end, 1,000 cc., the proper lengths of rubber tubing to make connection, two stopcocks, two Luer Lok adapters, two Yale needles 19 guage 2½ inches, one glass T tube and one glass observation tube. The rubber tubing is



made of good quality gum rubber to withstand repeated boiling, and is of standard, uniform quality, thickness and calibre, with a diameter of ¼ inch and lumen of ⅛ inch. A reserve supply of this tubing should be kept on hand to replace worn-out tubing. A short section of heavy rubber tubing is supplied for connection with ⅜ inch neck of gravity jar. The stopcocks should be attached as near the terminal ends of tubing as possible.

If the outfit is to be employed for intravenous work remove the T tube and replace with glass observation tube, using one terminal rubber connection with fittings. If Fordyce needle is used disconnect terminal Luer Lok adapter, and replace with Luer-slip made for Fordyce needle.

If one chooses to employ the Buckstein metal thermos container for keeping the solution warm, he may substitute this for the plain jar. In fact, the tubing is adapted for use with any type of container. An electric pad applied around the jar will also

help in keeping the solution warm. In intravenous infusions the rate of flow is not supposed to exceed 500 cc. in 10 minutes.

It is particularly recommended that all new rubber tubing, before being used for the first time, be soaked for six hours in normal sodium hydroxide solution, and then rinsed. As proven by Stokes & Busman[1] in experiments on dogs, arsphenamine solutions, as well as alkaline solutions, and transfusion media may become very toxic when new rubber tubing is used. This toxic agent is not destroyed by sterilization of the tubing, but disappears in repeated use of same. The toxic agent is removed promptly by soaking in hydrate solution as stated.

The simple, attractive features provided in this set make it indisensable to surgeon, internist and practitioner and eliminate frequent annoyance of poorly functioning apparatus.

The outfit is manufactured by Becton, Dickinson & Co., Rutherford, N. Y.

REFERENCES

1. Journal A.M.A., Vol. 74, No. XV, p. 1013, April 20, 1920

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A New Product

Horlick's Milk Modifier is now being introduced to the medical profession. This maltose and dextrine product, which is derived exclusively from malted grains, was first announced at the annual meeting of the American Medical Association in Washington, D.C., in June, and created much interest. Since that time it has been presented to convention gatherings in other parts of the country, and the Horlick representatives are now calling on individual members of the profession. It is presented and supplied to the profession along ethical lines. No feeding directions accompany the package. A statement on the wrapper is to the effect that the product is for prescription by physicians only.

In the June 18th issue of the Journal of the American Medical Association, under the heading of "New and Non-Official Remedies," the acceptance of the Horlick Milk Modifier was announced by the American Medical Association. The product differs from the malt sugars in that it incorporates soluble and readily assimable protein and valuable mineral salts from the grains. The Horlick firm points out this fact as a decided advantage for its product.

Another point which is mentioned as an advantage in favor of the new product is the proportion of its two chief carbohydrates, maltose and dextrin, which are 63 per cent maltose and 19.5 per cent dextrin.

Samples of the new product, literature concerning its use, prescription blanks and file cards giving methods of preparation are available for members of the medical profession and will be sent upon request.

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Postoperative pulmonary atelectasis is of more common occurrence than is usually thought. The majority of postoperative pulmonary conditions previously regarded as aspiration or postoperative pnumonia, bronchitis or bronchopneumonia, have been cases of atelectasis. Such is the conclusion reached by Mastics, Spittler and McNamee in an article published in the August number of the Archives of Surgery . They find that in atelectasis the signs of consolidation are present with a suppression of breath sounds and fremitus with retracted, immobile chest, associated with a displacement of the heart and mediastinal structures toward the affected side. If there are no complications there is an absence of toxicity. The diagnosis may be confirmed by x-ray examinations.

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From the curriculum of the modern medical school one might think it was intended to turn out finished doctors. That is one of the troubles with the medical profession now, there are too many doctors who seem to believe they were finished when they graduated. A man who boasted that he read more medicine than any other doctor in his community, graduated twenty years ago and has never read anything but the text books he used in college.

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Some recent experiments, recently reported, show that the urine of normal children in a recumbent position is alkaline but as soon as they assume an upright position it becomes acid. When in the recumbent position the urine is also larger in quantity and of lower specific gravity than when in the upright position. It was also shown that giving large quantities of water did not change the acid reaction in the standing position.

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Of the five forms of tubercle bacilli—human, bovine, avian, piscene and reptilian—but three of them are liable to affect man, we are told. The bovine type affects the skin, bones and mesenteric glands while, as a rule, pulmonary and laryngeal lesions are caused by the human type.

A New Tax Ruling

The compensation received by a medical director of a state or county hospital is no longer exempt from income taxes, under a ruling just announced by the Income Tax Department, according to M. L. Seidman, tax expert of Seidman & Seidman, Certified Public Accountants.

"Heretofore," Mr. Seidman explained, "the law used to be that a medical director in the position mentioned need not pay any income taxes on his compensation since he was a state employee or the employee of a subdivision of a state, and the salaries of such employees were exempt from tax. Under the 1926 law, the further requirement was added that the employment be in connection with an essential governmental function. It is now held by the Income Tax Department that operating a hospital is a proprietary rather than a governmental function, and hence the Department concludes that the compensation of a medical director is subject to tax under the present law.

"The probabilities are," Mr. Seidman added, "that this ruling will be contested, for there is a serious doubt whether conducting a hospital is purely proprietary. The contention may be made that the state wishes to safeguard life as well as property and maintaining a public hospital could therefore be regarded as an essential govmental function."

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To Former Illinois Doctors

Doctors who lived formerly in Illinois, or who are descendants of pioneer physicians of the "Illinois Country" will hear with interest that volume one of the "History of Medical Practice in the State of Illinois" is ready for delivery.

The History has been written under the supervision of a committee appointed by the Illinois State Medical Society as a commemmoration of its seventy-ffifth anniversary but more especially to make a living tribute to those valiant men of the medical profession who played so able a part in the exploration, settlement and development of the Illinois country.

In this first volume of the history are set down events from the earliest available knowledge of conditions in the Illinois country, along through the days of the Aborigines, and commencing with the actual records when, in 1673 Father Marquette had medical attention in Chicago, up until the year 1850.

In the second volume (now in preparation), narration continues up until the present time. Future years will bring other volumes so that this History will be an ever virile monument to the men and incidents whom it would honor.

Research for years resulted in an opulent supply of material from which to compile this History and has evidenced to an almost unbelievable degree the vital part played by physicians in every angle of the exploration, settlement and development of a country that is one of the richest and most influential sections of the richest country in the world.

It must be remembered that originally the Illinois country encompassed a territory far greater than the area now known as the State of Illinois, Wisconsin, Indiana, Missouri, Kentucky and Iowa, as well as what is now Illinois, and even some sections of Ohio fell into that primitive epitome of the Illinois country. In the southern part of the state it was well into the nineteenth century before Missouri and Illinois ever acknowledged the natural divorce of interests made by the Mississippi river. Because of this, naturally enough, close interest in this History extends to physicians or to their descendants in practically every State in the Mississippi valley or contiguous thereto.

Rare maps, unusual personal memorabilia and rare discretion in compilation, make this History of unique interest to doctors everywhere and to many laymen.

Volume one is new ready. Volume two will follow soon. Orders may be sent to Committee on Medical History, Illinois State Medical Society, Medical and Dental Arts Building, 185 North Wabash Avenue, Chicago, Illinois. Charles J. Whalen, M.D., Chairman.

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In an article on Asthma in Children by Murray Peshkin which appeared in the American Journal of Diseases of Children, June 1927, the statement is made that enlarged or diseased tonsils and adenoids do not operate as etiologic factors in asthma. On the other hand surgical intervention may initiate the onset and adversely affect the course of asthma. He further states that tonsillectomy performed before or after the onset of asthma for the relief of recurrent "head colds" proved to be of no value, because in a great majority of these patients the symptoms were an expression of protein sensitization.

Dr. H. G. Knight Appointed Chief of Bureau of Chemistry and Soils

Dr. Henry G. Knight, dean of the college of agriculture and director of the experiment station of the University of West Virginia, has been appointed chief of the new Bureau of Chemistry and Soils of the United States Department of Agriculture by Secretary W. M. Jardine. Doctor Knight is a man of broad training in chemistry, soils, and agronomy, and of extensive experience in directing research in these fields. He will assume his new duties about October 1.

Doctor Knight was born at Bennington, Kans., July 21, 1878. He received the degree of bachelor of arts from the University of Washington in 1902, and the degree of master of arts from the same institution in 1904. He was a fellow at the University of Chicago in 1903, and received the degree of doctor of philosophy from the University of Illinois in 1907. He was assistant chemist in the University of Washington in 1903 and 1904, professor of chemistry and State chemist of Washington 1904-10, and director of the Washington Agricultural Experiment Station 1910-18. He served as dean of the college of agriculture and director of the experiment station of the University of Oklahoma 1918-20. He was honorary fellow at Cornell University in 1921-22. In 1922 he was apointed to the positions in West Virginia which he now resigns to accept the appointment in the Department of Agriculture.

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The Prodigal says: "I think the American Medical Association at Washington, D. C., in May 1927, made a bad break when they resoluted for greater freedom to purvey whiskey. Such liberty would increase the number of bootleg doctors, who are considered an undesirable class of citizens. I saw the effect of such liberty granted to the profession in Kansas in the '80s in the beginning of prohibition in that state. The privilege was so abused that it was a travesty on the profession, and a disgrace and had to be corrected by legislation. The assumption that any man or set of men are to be the sole arbiters of any question of morals, physical or mental, is, to assume infallibility. Men are big children and like little children the only safe way to keep them, a part of the time in the right path, is by restraint.

In the '80s, a homeopath in Columbus, Kansas, was prosecuted for prescribing at one time for one patient, three gallons of whiskey and one case of beer. Dr. Kenney, a witty Irish physician, was a witness for the prosecution. He was asked by the prosecuting attorney the following question viz.'

'If three gallons of whiskey and one case of beer is a homeopathic dose of one patient, what would be an allopathic dose be?'

Answer: 'Your honor, it would take a distillery and a brewery to fill the prescription.'

The homeopaths and the eclectics did not do all the prescribing in those days."

———B———

New Step in International Relations of Physicians

The cordial relations of the physicians of America, North and South, and their colleagues of the Old World, were further expressed by the appointment of American representatives to the editorial cabinet of Acta Dermato-Venereologica published under the direction of Dr. Johan Almkvist of Stockholm, Sweden. The nominees are: Howard Morrow of San Francisco, Howard Fox of New York, J. B. Shelmire of Dallas, D. R. Smith of Toronto, Pardo Castello of Havana, and Herman Goodman of New York.

The Acta Dermato-Venereologica publishes original contributions in French, German, or English within the fields of dermatology, urology, and social hygiene, and items of interest of persons or progress in these specialties.

American literary contributions should be addressed to Dr. Herman Goodman, 18 East 89th Street, New York City.

———B———

Fatal pulmonary embolism occurred in six per cent of the surgical cases that came to necropsy at the Mayo Clinic, is the statement made by Henderson in the Archives of Surgery for August. It was observed that patients who die from pulmonary embolism are older than the average surgical patient and that they are overweight. It was also observed that as a group they have normal or somewhat subnormal blood pressures. Snell, reporting from the same clinic, concludes that pulmonary embolism following operation is a more common cause of death in obese patients than in average patients. It seems from the cases studied that there is greater susceptibility to pulmonary embolism in patients over fifty years of age who are overweight and have a subnormal blood pressure.

Control of Hypothyroidism by Thyroidectomy

The status of 100 patients from six months to six years after thyroidectomy performed for the relief of hyperthyroidism was ascertained by C. A. Elliott, Chicago (Journal A. M. A., Aug. 13, 1927). Seventy consider themselves perfectly well; thirty are conscious of some disability; all are carrying on their usual work. Forty-one show evidence of definite visceral injury as the result of previous hyperthyroidism. Of fourteen cases of exophthalmic goiter in which operation was performed within three months of the onset of symptoms, only one shows residual visceral damage. Four patients are considered to have persisting but not disabling hyperthyroidism insufficient to require operation. Five patients are definitely hypothyroid, and are benefited by thyroid extract. Laryngeal nerve injury occurred temporarily in six cases; in two the injury has persisted. Reoperation for thyroid remnants was necessary in six cases. Hyperthyroidism is a progressively harmful condition and should be controlled early before permanent tissue injury has occurred. Subtotal thyroidectomy early in the disease effectively controls hyperthyroidism, provided a sufficient amount of the gland has been removed. If hyperthyroidism continues after such an operatoin, too much thyroid substance has been permitted to remain. The preoperative administration of iodine seems equally effective, at least temporarily, in toxic adenomatous and in exophthalmic goiter. Thyroidectomy, even if performed late, after a prolonged period of hyperthyroidism, is a valuable procedure, enabling most patients to return to their previous occupations even though considerable residual injury may be evident.

℞

The announcement by Harington, in 1926, that thyroxin, instead of being a compound of tryptophan, is a teraiodo derivative of the p-hydroxyphenyl ether of tyrosine, has been followed by a determination of its constitution. Following this, Harington and Barger prepared synthetic thyroxin. This has been shown to be identical with natural thyroxin. Thus, the artificial production of a naturally occurring biologicil product, the active principle of the thyroid gland has been accomplished. (Jr. A.M.A., June 11, '27).

℞

The antirachitic substance, vitamin D, occurs in some fish oils—notably in cod liver oil—in egg yolk fat, and to a small extent in milk fat. As a rule the vegetable fats are not antirachitic. A few instances of undoubted potency in oils of plant origin have been ascribed to the effect of solar irradiation of the products incident to their commercial preparation. This is true of cocoanut oil prepared from sun-dried copra. Whereas the other vitamins appear to originate in the vegetable kingdom, this is not the case with vitamin D. Experiments carried out to learn the origin of vitamin D in the cod-fish, raise the question as to whether vitamin D cannot actually be synthesized by certain species. These experiments also revealed that the oils of the herring and sardine rival the cod in antirachitic potency. (Jr. A.M.A., June 4, '27).

℞

That cow's milk has a definite bactericidal action is the conclusion drawn by Jones and Little from their tests with nonhemolytic streptococcus. The milk inhibited the growth of the streptococcus for varying periods. The milk from some cows prevented growth for eight hours and that from others from four to six hours. Whey obtained by the action of sterile rennet solution inhibited the growth of the streptococcus practically as well as milk. They infer that the substance orignates in the udder. Their full report appeared in a recent number of the Journal of Experimental Medicine.

℞

What was formerly called salt fever, occuring in children is now known as protein fever since it can be produced by the administration of a diet of concentrated proteins or by urea or sodium chloride. The temperature may reach 104 and there is thirst, restlessness and a dry skin, but no other symptoms. All the symptoms are relieved promptly by large doses of water by mouth. The fever disappears with the beginning of free perspiration.

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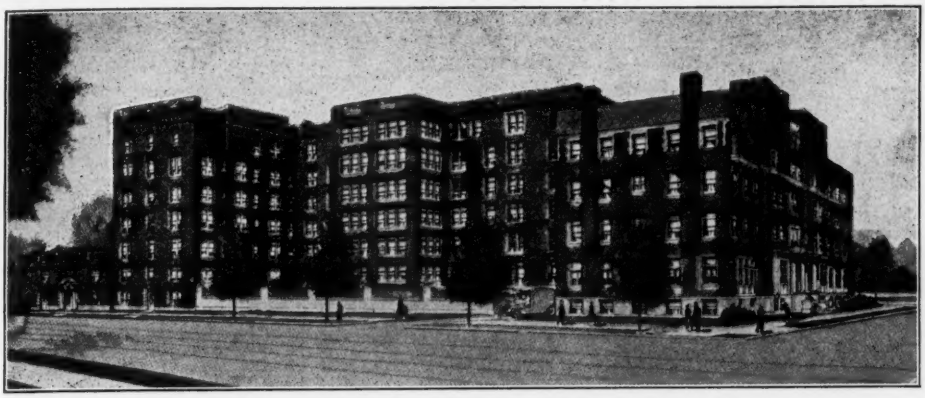

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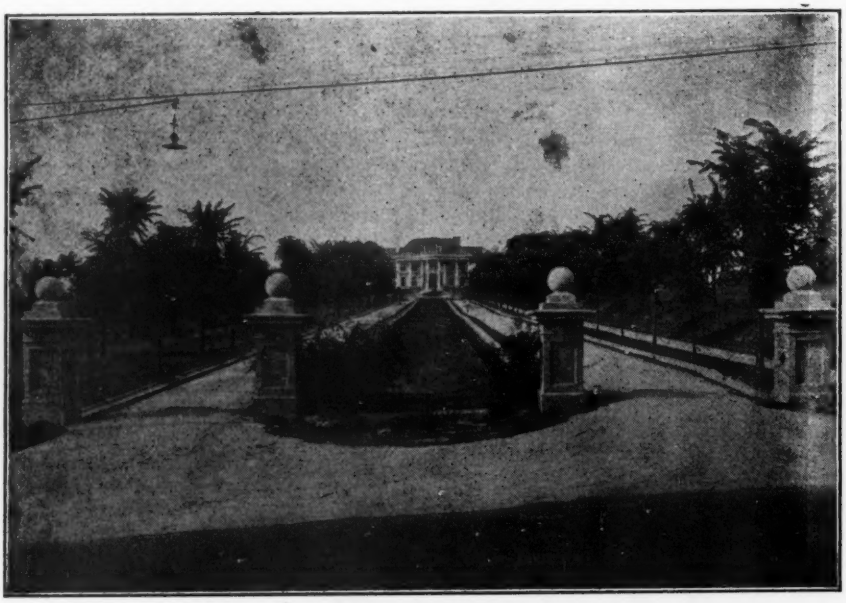

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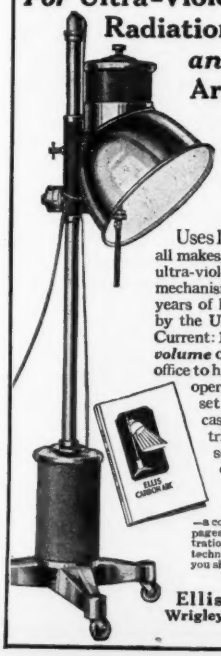

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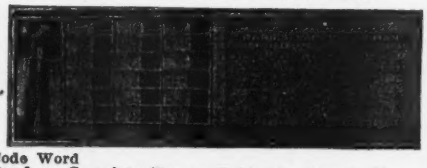

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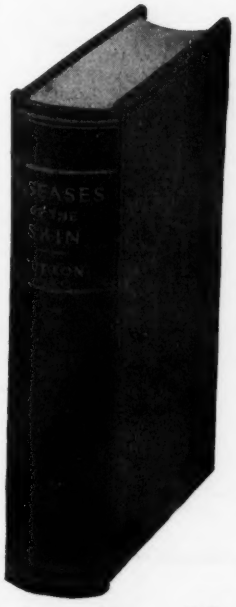

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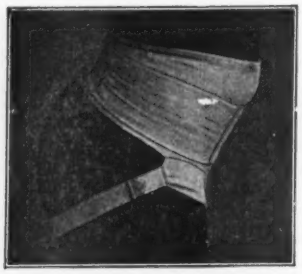

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Water (boiled, then cooled)	**16 fluidounces**

While the condition of the baby will guide the physician in regard to the amount and intervals of feeding, the usual custom is to give one to three ounces every hour or two until the stools lessen in number and improve in character. The food mixture may then be gradually strengthened by substituting one ounce of skimmed milk for one ounce of water until the amount of skimmed milk is equal to the quantity of milk usually employed in normal conditions. Finally the fat of the milk may be gradually replaced, but as milk fat is likely to be digested with much difficulty after an attack of diarrhea it is good judgment to continue to leave out the cream until the baby has fully recovered.

Further details in relation to this subject are set forth in a pamphlet entitled, "The Feeding of Infants in Diarrhea", and in our book, "Formulas for Infant Feeding". This literature will be sent to physicians upon request.

Mellin's Food Co., 177 State St., Boston, Mass.

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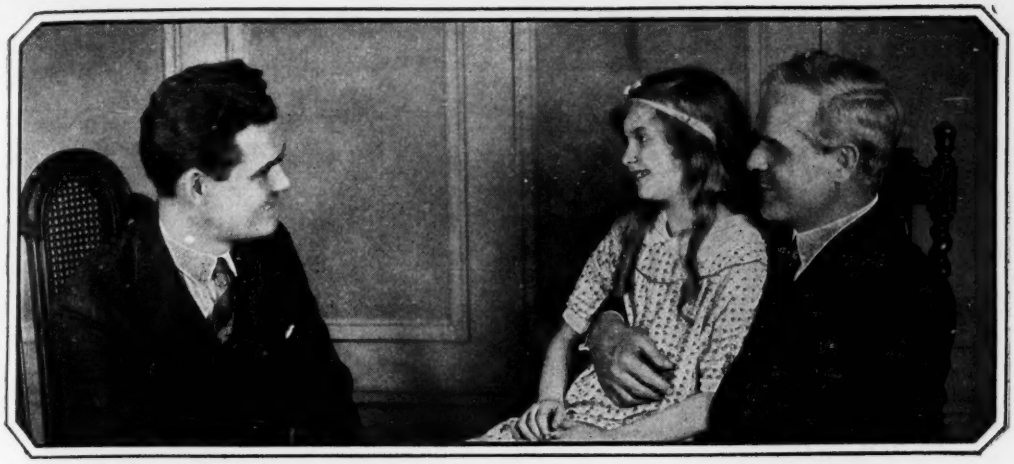

School Days Are Here!

— *again we face the threat of diphtheria*

"So this is your daughter, Doctor' She has certainly grown up since I last saw her."

"Indeed she has—she was my boon companion all summer long—but I am about to lose her company. She will soon go back to school. School days are here, you know."

"Quite so, Doctor, and that means the threat of diphtheria infection is again present. I hope you have taken the precaution of immunizing your little girl against that dreaded childhood disease. Each year diphtheria takes its toll of children's lives. Each year parents send their children back to school; to possible exposure to diphtheria without taking the precaution of having them examined and treated by their physicians. The pity of it, when we know that diphtheria can be prevented."

"The development of the Schick Test and of Diphtheria Toxin Antitoxin Mixture has made possible the reduction of the incidence of diphtheria as an epidemic disease but the timely use of these important biologicals can even further reduce diphtheria mortality."

"May I suggest that you communicate with parents in the neighborhood and advise that their children be brought to you for immediate examination so that susceptibility can be determined by means of the Schick Test, and immunity established. It would also be well to keep a few packages of Squibb Diphtheria Biologicals on hand at this season."

Diphtheria Antitoxin Squibb

For prophylaxis and treatment.

Prepared under strictest aseptic precautions. Refined and Concentrated. Small in bulk, high in potency, and low in total solids.

Diphtheria Toxin for Schick Test

For determining susceptibility to diphtheria.

A reliable clinical test. Now a recognized procedure by the U. S. Public Health Service, Health boards and among private practicing physicians.

Diphtheria Toxin-Antitoxin Mixture Squibb

For the immunization of susceptible persons against diphtheria, and establishing an active immunity against diphtheria lasting three years or longer. Protein reaction reduced to a minimum by a new formula.

[Write to Professional Service Department for Literature]

E·R·SQUIBB & SONS, NEW YORK

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858.

KANSAS MEDICAL SOCIETY

Chartered by the Territorial Legislature of Kansas, February 19, 1859

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Members of Component County Societies are members of the Kansas Medical Society. Physicians residing in counties where no County Society exists may join the society of an adjoining county. Physicians residing where no County Society exists, who are members of a district or other independent society approved by the Council, may be admitted to membership.

ANNUAL DUES $5.00, due on or before February 1st of each year.

Dues should be paid to the Secretary of the Component County Society, or, if not a member of a County Society, to the Secretary of the Kansas Medical Society.

OFFICERS FOR 1927

COUNTY	PRESIDENT	SECRETARY	MEETINGS HELD
Allen	A. R. Chambers, Humboldt.	P. S. Mitchell, Iola	
Anderson	W. E. Hare, Garnett	A. J. Turner, Garnett	2nd Wednesday
Atchison	W. F. Smith, Atchison	S. W. Connor, Atchison	1st Wed. ex. July and August
Barton	E. C. Button, Great Bend	H. C. Embry, Great Bend	1st Tuesday, Jan., Apr., June, Oct.
Bourbon	C. L. Mosley, Fort Scott	W. S. Gooch, Fort Scott	2nd Monday
Brown	W. G. Emery, Hiawatha	R. T. Nichols, Hiawatha	2nd Friday
Butler	L. L. Williams, ElDorado	G. E. Kassebaum, Oil Hill	2nd Friday
Central Kansas	J. B. Carter, Wilson	H. S. O'Donnell, Ellsworth	Dec., March, June, Sept.
Cherokee	R. C. Lowdermilk, Galena	W. H. Iliff, Baxter Springs	2nd Monday
Clay	C. C. Stillman, Morganville	G. B. McIlvain, Clay Center	2nd Wednesday
Cloud	Andrew Struble, Glasco	R. E. Weaver, Concordia	Last Thursday
Coffey	H. T. Salisbury, Burlington	A. B. McConnell, Burlington	
Cowley	H. H. Jones, Winfield	J. R. Wentworth, Ark. City	1st Tues. ex. July, Aug., Sept.
Crawford	Oscar Sharp, Pittsburg	H. J. Veach, Pittsburg	3rd Thursday
Decatur-Norton	J. A. H Peck, St. Francis	C. S. Kenney, Norton	Called
Dickinson	E. J. Reichley, Herington	L. A. O'Donnell, Chapman	
Doniphan		W. M. Boone, Highland	1st Tues. Jan., Apr., July, Oct.
Douglas	J. R. Bechtel, Lawrence	J. B. Henry, Lawrence	1st Thursday
Elk	R. C. Harner, Howard	F. L. Depew, Howard	Called
Finney	R. M. Troup, Garden City	O. W. Miner, Garden City	
Ford	C. E. Bandy, Bucklin	W. F. Pine, Dodge City	Last Wednesday
Franklin	Geo. W. Davis, Ottawa	J. R. Scott, Ottawa	
Harper	J. G. Walker, Attica	E. P. Montzingo, Attica	3rd Wed., Mar., June, Sept., Dec.
Harvey	W. F. Schroeder, Newton	H. M. Glover, Newton	1st Monday
Jackson	M. S. McGrew, Holton	C. A. Wyatt, Holton	1st Wed., Jan., Apr., July., Oct.
Jewell	J. E. Hawley, Burr Oak	C. W. Inge, Formoso	
Johnson	C. H. Lester, Olathe	D. E. Bronson, Olathe	
Kingman	R. W. Springer, Kingman	H. E. Haskins, Kingman	2nd Thursday ex. summer months
Labette	J. D. Pace, Parsons	R. W. Urie, Parsons	4th Wednesday
Leavenworth	H. J. Stacy, Leavenworth	J. L. Everhardy, Leavenw'th	1st Monday
Lincoln		M. Newlon, Lincoln	2nd Thursday
Linn	D. E. Green, Pleasanton	H. L. Clarke, LaCygne	2nd and 4th Fridays
Lyon	G. S. Fulton, Emporia	C. L. Patton, Emporia	1st Tuesday
Marion		E. H. Johnson, Peabody	2nd Wednesday
Marshall	J. L. Hausman, Marysville	J. W. Randell, Marysville	Last Thurs., July, Oct., Jan., Apr.
Meade-Seward	F. W. Huddleston, Liberal	B. H. Day, Liberal	
Miami	L. A. Van Pelt, Paola	J. W. Kelley, Louisburg	
Mitchell		E. E. Brewer, Beloit	2nd Friday
Montgomery	C. A. Thomas, Coffeyville	J. A Pinkston, Independence	
McPherson		W. C. Heaston, McPherson	Last Thursday every other month
Nemaha	D. H. Fitzgerald, Kelly	S. Murdock, Jr., Sabetha	Second Monday
Neosho	S. G. Ashley, Chanute	J. N. Sherman, Chanute	
Osborne	J. F. Hensnall, Osborne	S. J. Schwaup, Osborne	
Ottawa	L. M. Hinshaw, Bennington	C. M. Vermillion, Min'polis	
Pawnee	G. S. Weaver, Larned	C. E. Sheppard, Larned	2nd Tuesday
Pratt		W. F. Bernstorf, Pratt	1st Monday
Reno	G. E. Paine, Hutchinson	C. A. Boyd, Hutchinson	4th Friday
Republic	L. O. Nordstrom, Belleville	H. D. Thomas, Belleville	2nd Thursday in November
Rice	J. M. Little, Sterling	C. E. Fisher, Lyons	Last Thursday
Riley	H. T. Groody, Manhattan	J. T. Mathews, Manhattan	2nd Monday
Rush-Ness	L. A. Latimer, Alexander	E. N. Sulis, McCracken	
Saline	C. M. Fitzpatrick, Salina	E. G. Ganoung, Salina	2nd Thursday
Sedgwick	H. F. Hyndman, Wichita	W. J. Eilerts, Wichita	1st and 3rd Tuesday
Shawnee	J. L. Lattimore, Topeka	E. G. Brown, Topeka	1st Monday
Smith	D. W. Relihan, Smith Ctr.	H. Haerle, Athol	Called
Stafford	M. M. Hart, Macksville	J. T. Scott, St. John	2nd Wednesday
Sumner	W. E. Bartlett, Belle Plain	W. H. Neel, Wellington	Last Thursday every quarter
Washington		W. M. Earnest, Washington	
Wilson	W. H. Young, Fredonia	E. C. Duncan, Fredonia	2nd Monday.
Woodson	H. W. West, Yates Center	M. S. Reynolds, Yates Center	
Wyandotte	T. L. Richmond, Kansas City	H. W. King, Kansas City	Every 2nd Tues. ex. summer mont